JAGUAR

Technical Guide

XK8 Sports Coupe and Convertible Introduction

BY APPOINTMENT TO
HER MAJESTY QUEEN ELIZABETH II
MANUFACTURERS OF DAIMLER AND JAGUAR CARS
JAGUAR CARS LIMITED COVENTRY

BY APPOINTMENT TO
HER MAJESTY QUEEN ELIZABETH
THE QUEEN MOTHER
MANUFACTURERS OF DAIMLER AND JAGUAR CARS
JAGUAR CARS LIMITED COVENTRY

BY APPOINTMENT TO
HIS ROYAL HIGHNESS THE PRINCE OF WALES
MANUFACTURERS OF DAIMLER AND JAGUAR CARS
JAGUAR CARS LIMITED COVENTRY

Technical Guide

XK8 Sports Coupe and Convertible Introduction

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This Technical Guide introduces the new XK8 luxury sports car range. It is intended to give Jaguar Dealer workshop personnel an overview of its construction and operation, and is for information purposes only.

The contents of this Technical Guide must not be used as a reference source for servicing procedures; all servicing procedures must be in accordance with the appropriate Service Manual.

This Technical Guide will not be updated. While every effort is made to ensure accuracy, changes may occur between going to press and the vehicle being introduced to the market. Once the vehicle is in service, details of changes can be obtained from Service Bulletins and revisions to the Service Manuals.

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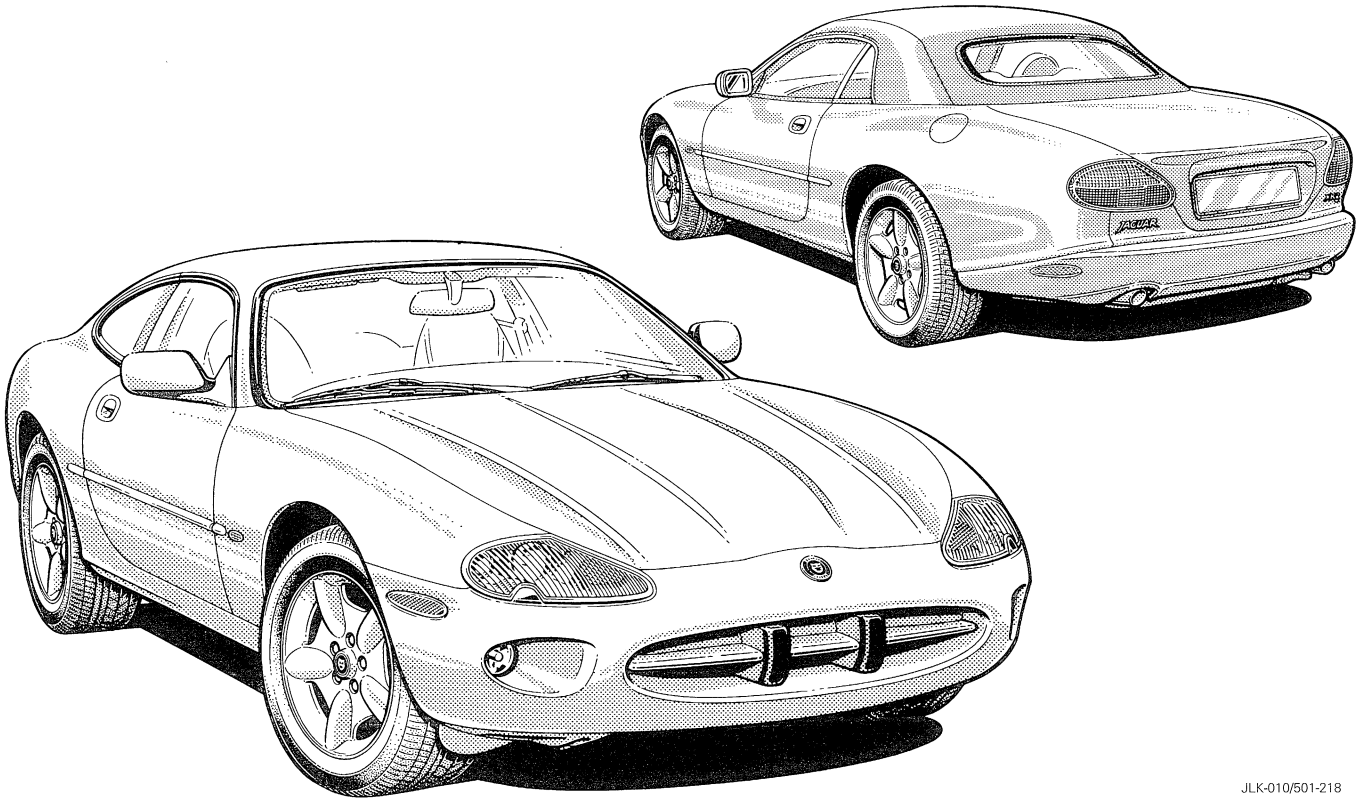
The following abbreviations are used in this document

Abbreviation	Description
A/C	air conditioning
A/CCM	air conditioning control module
ABS	anti-lock braking system
ABSCM	anti-lock brake system control module
ADCM	adaptive damping control module
airbag/SRS	airbag/supplementary restraint system
ALR	automatic locking retractor
BCM	brake control modulator
BIW	body-in-white
BPM	body processor module
CAN	controller area network
°C	degree Celsius
CD	compact disk
DCM	dimmer control module
DDCM	driver door control module
DSCM	driver seat control module
DTC	diagnostic trouble code
E Label	European manufacture label
ECM	engine control module
eg	example
EGR	exhaust gas recirculation
ELR	emergency locking retractor
EVAP	evaporative emmision
gall	gallon
HMSL	high-mounted stop light
ICE	in-car entertainment
in	inch
ISO	International Standards Organisation
JDS	Jaguar diagnostic system
Kbps	kilobaud per second
kg	kilogram
km/h	kilometre per hour
KTM	key transponder module
lb	pound
LCD	liquid crystal display
LCM	lamp control module
LED	light emitting diode
LH	left-hand
LHD	left-hand drive
m	metre
MAFS	mass air flow sensor
mm	millimetre
mph	miles per hour

Abbreviation	Description
MY	model year
PAS	power assisted steering
PASCM	power assisted steering control module
PDCM	passenger door control module
PDU	portable diagnostic unit
PSCM	passenger seat control module
RH	right-hand
RHD	right-hand drive
rpm	revolutions per minute
SCP	standard corporate protocol
SLCM	security and locking control module
TC	traction control
TCM	transmission control module
VIN	vehicle identification number



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The XK8 is a new luxury sports car available in both coupe and convertible forms. The car is also the launch vehicle for the new AJ-V8 engine and ZF 5-speed automatic transmission, both described in an Introductory Guide which compliments this Guide.
Interiors are trimmed in Classic style, which retains Jaguar's traditional burr walnut veneer and color co-ordinated trim.
Two computer systems are used to control and monitor vehicle systems, CAN and SCP. CAN is a higher speed system used for management of engine, transmission and brakes. SCP is a slower system used for operation of body systems, such as, seat movement, door window operation and vehicle locking and security.

Some new features are:

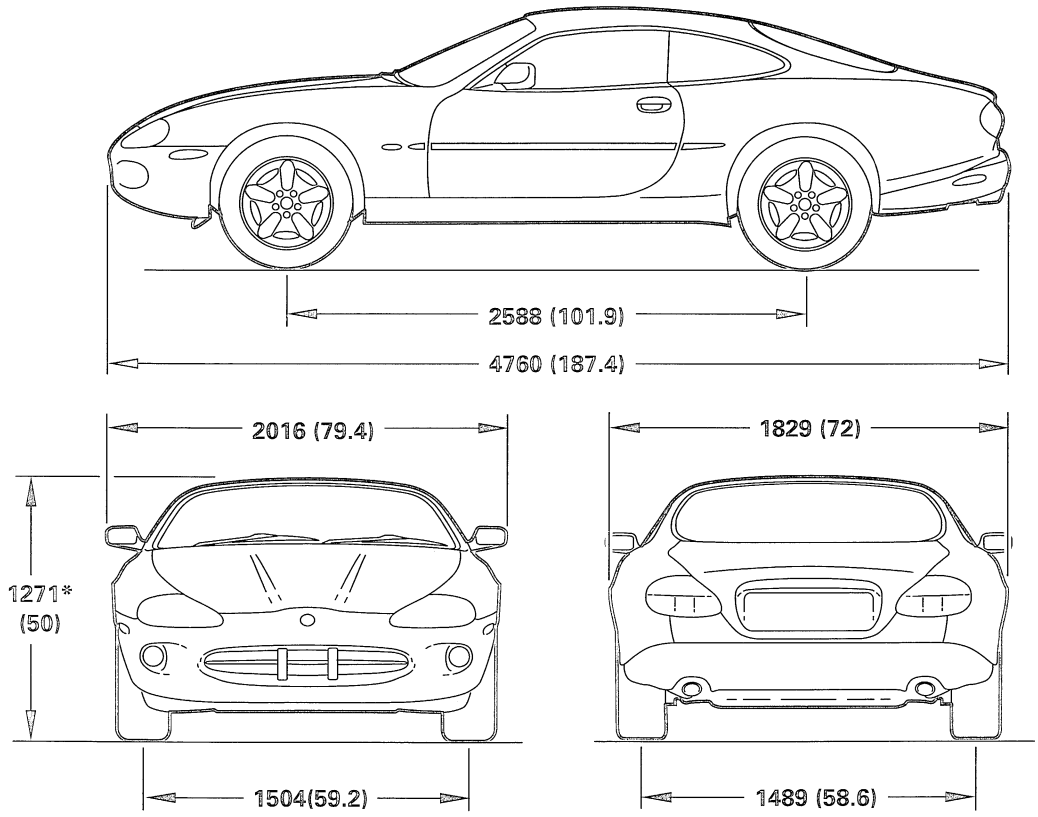
- a speed sensitive, variable ratio, power steering system
- an all new front suspension system
- seat belt pretensioners
- power latching convertible top
- steering wheel mounted ICE and cruise control switches
- fade up/down interior lighting on entry and exit
- telescopic headlamp power wash
- wiper blade mounted washer jets
- four-button remote transmitter
- height adjustable driver seat

Vehicle Weights

	Approximate Weight, kg (lb)	
	Coupe	**Convertible**
Kerb weight:		
Front axle	869 (1912)	899 (1978)
Rear axle	811 (1784)	871 (1916)
Total	1680 (3696)	1770 (3894)
Gross vehicle weight:		
Front axle	953 (2100)	983 (2167)
Rear axle	1057 (2330)	1117 (2463)
Total	2010 (4431)	2100 (4630)
Trunk capacity (maximum permitted with driver and passenger)	48 (106)	48 (106)

Dimensions

EXTERNAL DIMENSIONS



All dimensions in mm (in)

***Height, at Gross Vehicle Weight**
Kerb to Kerb Turning Circle 11 000 (36.0 ft)

Vehicle Features

The features of the XK8 range include those items detailed below. Unless stated otherwise, the features listed apply to both coupe and convertible models.

NA = Not Available; O = Optional; X = Standard

Feature	Applicability
Air conditioning	X
Air filtration	O
Automatic transmission	X
Catalytic converters	X
Cruise control	X
Driver and passenger airbag/SRS	X
Electrochromic interior mirror	X
Front fog lamps	X
Garage door opener	X
Headlamp power wash	O
Heated windshield	X Canada only Not available elsewhere
ICE:	
Base system	X
CD autochanger	O
Premium system	O
Integrated telephone	O
Interior trim:	
Classic leather	X
Locking:	
Central locking	X
Drive-away door locking	X
Panic locking/unlocking	X
Remote locking/unlocking	X
Remote trunk unlocking	X

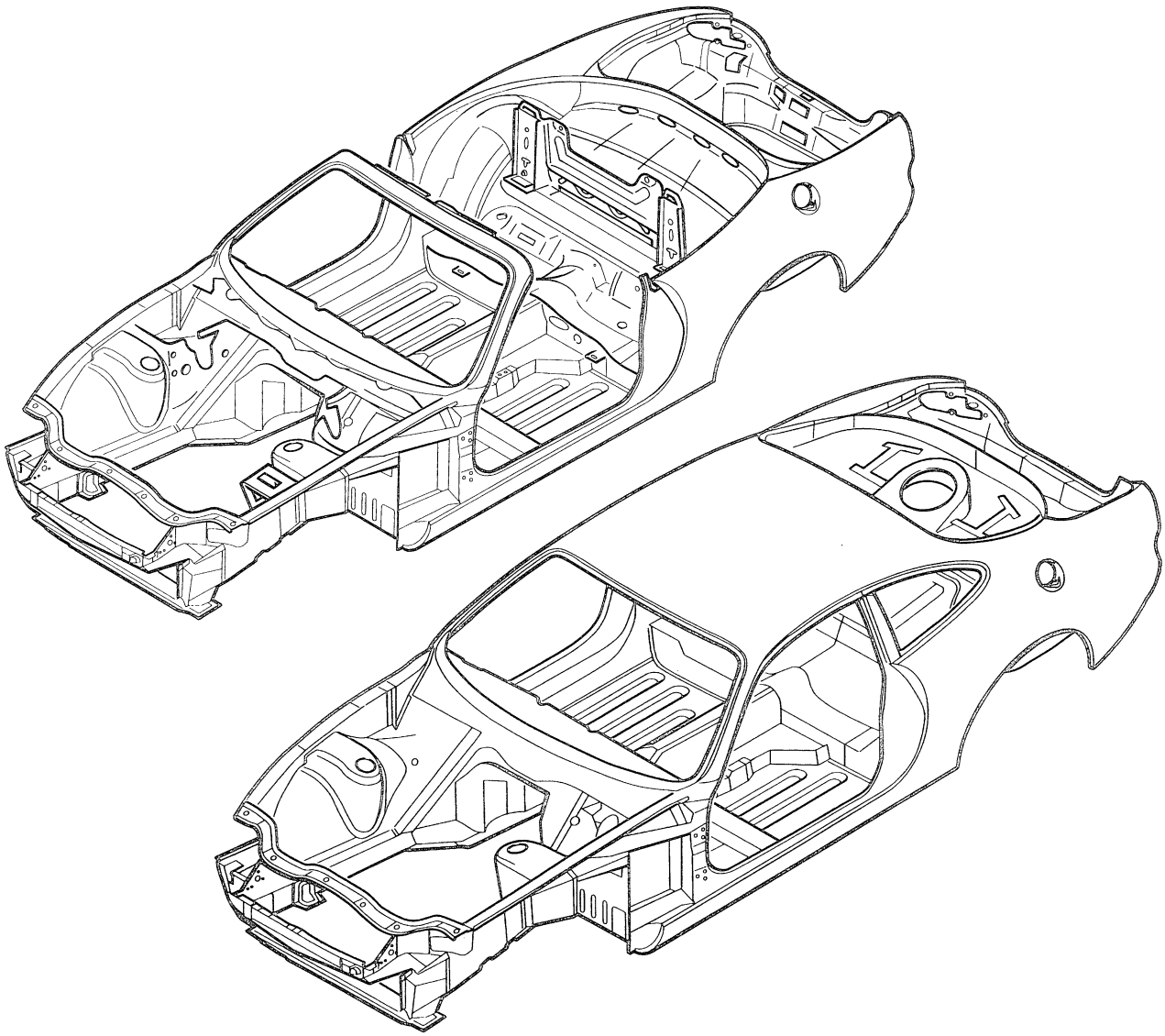
Feature	Applicability
Locking continued:	
Trunk valet isolation	**X**
Two stage unlocking (key and remote)	**X**
Metallic paint	**O**
Power operated convertible top with automatic latching	**X** on convertibles in all markets
Road wheels:	
17 inch alloy wheels	**X**
17 inch chromed alloy wheels	**O**
Full size spare wheel:	**X**
Spacesaver spare wheel:	**NA**
Seating:	
2+2 configuration	**X**
Driver's seat memory	**X**
Driver's seat height adjustment	**X**
Electrical front seat adjustment	**X**
Heated front seats	**X** in Canada **O** in all other markets
Front passenger seat height	**X**
Security:	
Base system	**X**
Panic alarm	**X**
Brakes:	
Stability control	**X**
Traction control	**O**

Feature	Applicability
Steering:	
Electrically operated tilt and reach adjustment, with automatic tilt away for entry/exit	X
Variable ratio, speed sensitive power assistance	X
Suspension:	
Standard suspension	X
Trip computer	X

Body Structure

Two styles of body are manufactured, a coupe and a convertible. The coupe body is a new superstructure fitted on a modified XJS floorpan. The convertible body style is a cut-down version of the coupe with additional structure to suit, including tubular internal sill reinforcements. Approximately 70% of the panels are double-sided zinc coated. Box sections are wax injected. Underbody sealant is applied to the floorpan and wheel arches and an anti-chip coating is applied to the sills. The convertible has bracing struts passing through the plenum chamber moulding.

COUPE AND CONVERTIBLE BODY SHELLS



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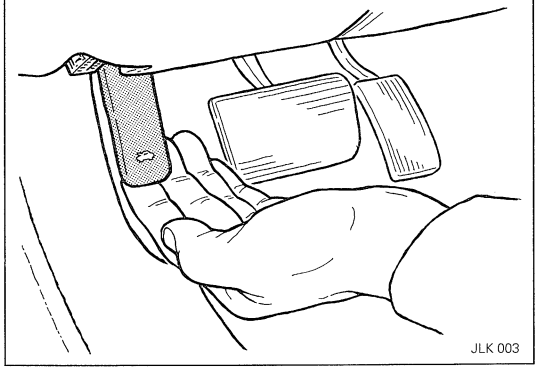
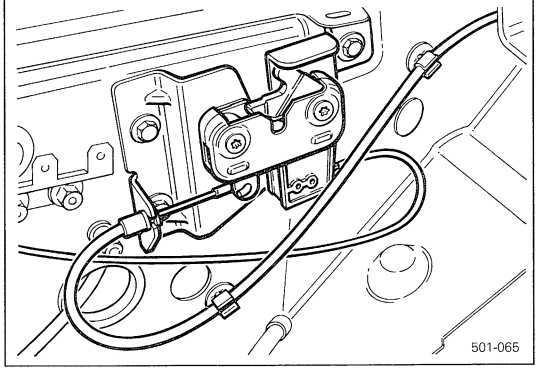
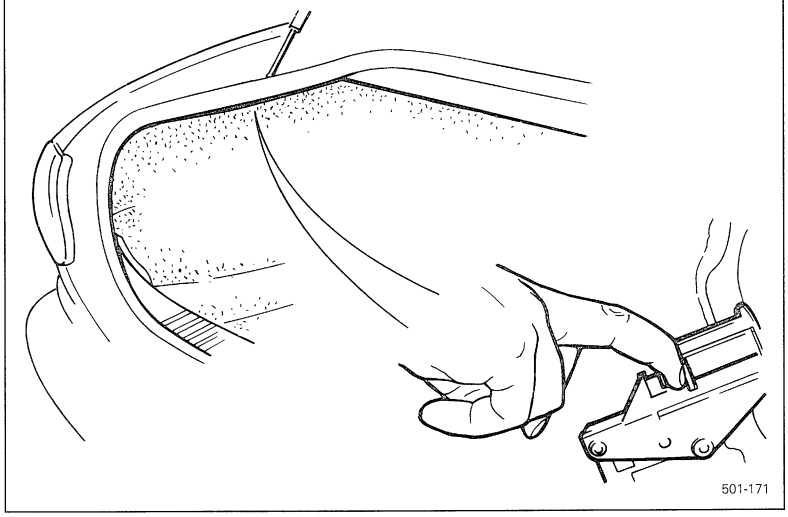
HOOD - OPENING LEVER



HOOD LATCH AND SECURITY SWITCH



FUEL FILLER FLAP MANUAL RELEASE LEVER



Body Front

The valance is reinforced for front fender mounting. The front fenders are common parts to both coupe and convertible. The front fenders carry Jaguar badges.

Body Side

The coupe body side assembly is a one-piece monoside and incorporates part of the outer sill, 'A' and 'B' posts and cantrail reinforcement. It is joined to the rear tonneau. The convertible uses a cropped coupe monoside and has the outer wheel arch bonded to the tonneau. Both treadplates are bright finish with the car designation, Jaguar XK8, inscription added.

Body Rear

The rear end underframe and rear side members are new items to suit the 95MY sedan rear suspension. The luggage floor is a 95MY sedan version cropped to suit but with revised trunk package layout and new battery mounting.

Hood

The hood comprises a new outer and one-piece inner panel. Non-locking gas struts support the open hood, which is hinged at the front. The hood release lever is located beneath the fascia at the left-hand side 'A' post. This lever operates two cables, one to each of the two catches. Both catches are modified XJS parts and are mounted inside the forward bulkhead extensions. The right-hand latch is fitted with a security switch wired to the BPM.

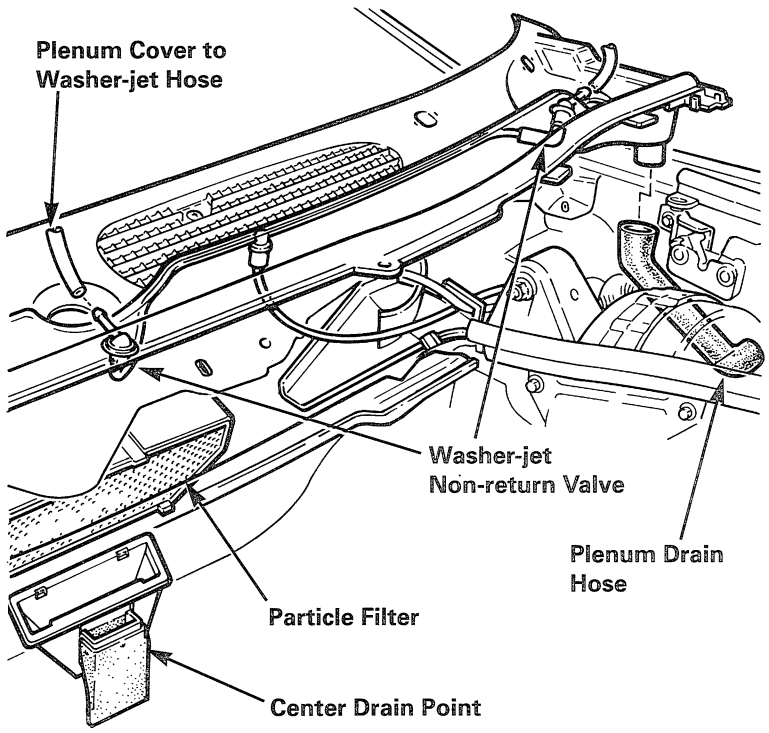
Fuel Filler

An illuminated switch in the driver's underscuttle opens the fuel filler flap which is located in the rear upper part of the left rear fender assembly. The flap will not open with the engine ON. Manual release of the flap is made by removing the trunk left side trim panel and pulling the manual flap release lever.

Plenum Chamber

The plenum is fixed in a similar manner to the 95MY sedan and includes the windshield/fender seals and tubing connectors for the windshield wiper wash. It also carries the climate control air intake particle filter, when fitted. The accelerator cable passes through the plenum to ensure that the cable cannot be trapped when the moulding is fitted. Water drain is from a central connection and wiper spindle depressions. Water deflectors keep water away from the control module and forward bulkhead extension areas. A plastic moulding plate closes off the plenum chamber from the central wet area and carries studs for attaching the ignition amplifiers.

PLENUM CHAMBER



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Identification Plates and Labels

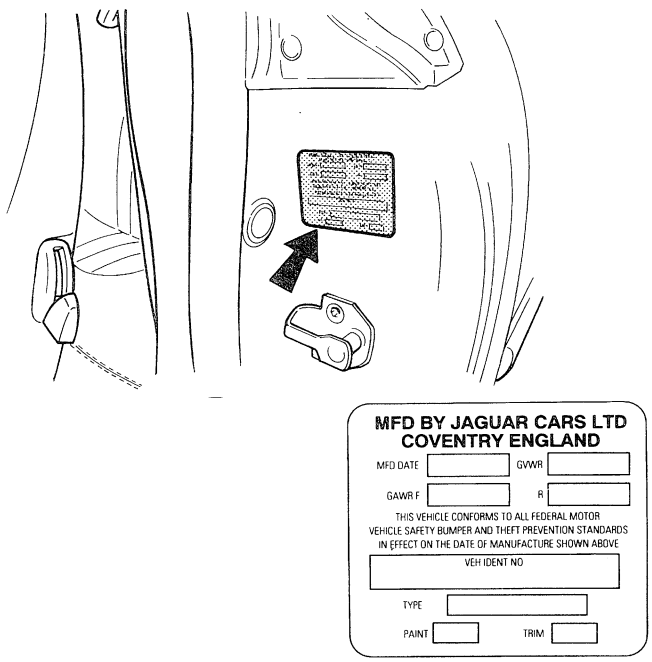
The Vehicle Identification Number (VIN) is stamped on the right-hand side longitudinal member in the spare wheel compartment.

A clear patch in the darkened area at the bottom left of the windshield allows visible access to a VIN plate which is bonded to the windshield reinforcing lower panel.

The VIN label is fixed to the B-post on the left-hand side of the vehicle, above the door striker plate.

An emissions bar code label is adhered to the drivers door shut face. The E approval label is fixed to the top surface of the LH turret panel.

VIN IDENTIFICATION LABELS



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Vehicle Jacking and Towing

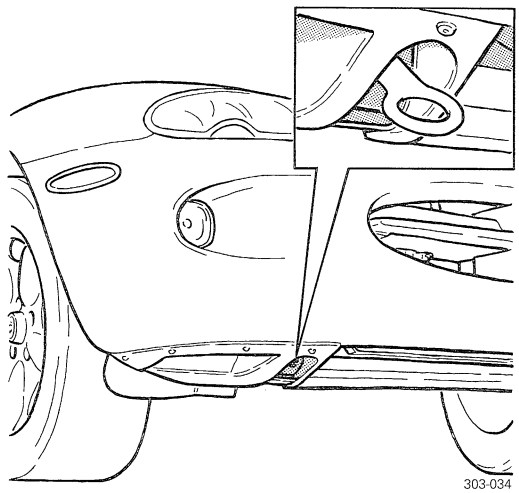
Caution: **Do not use the aluminum suspension cross beam for jacking the front of the car. Use only the car jacking points or the steel cross member below the radiator package.**
Rear jacking points are the normal car jacking points or the rear of the rear suspension subframe.

Road and ship transportation lashdown for the rear of the vehicle is via the rear suspension reinforcement forward of the rear wheels. Slave towing/lashing eyes are provided for road or ship lashdown of the front of the vehicle.

Caution **The slave towing/lashing eyes must be removed before the vehicle is driven on the public highway**

For vehicle recovery, a single front towing eye, stowed in the trunk, screws in to either the left or right-hand side of the lower cross member. The rear towing eye is a welded double loop on the right-hand side corner of the luggage floor.

FRONT TOWING EYE



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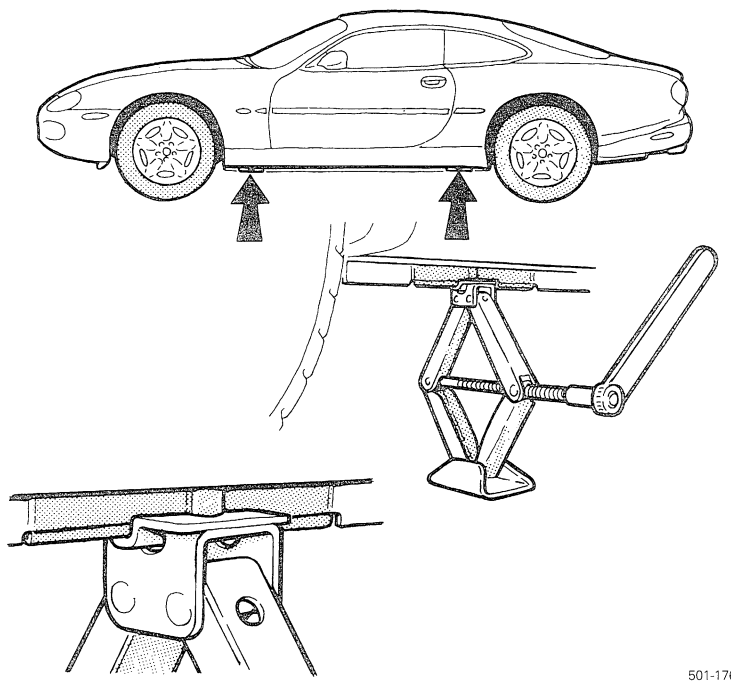
VEHICLE JACK AND JACKING POINTS



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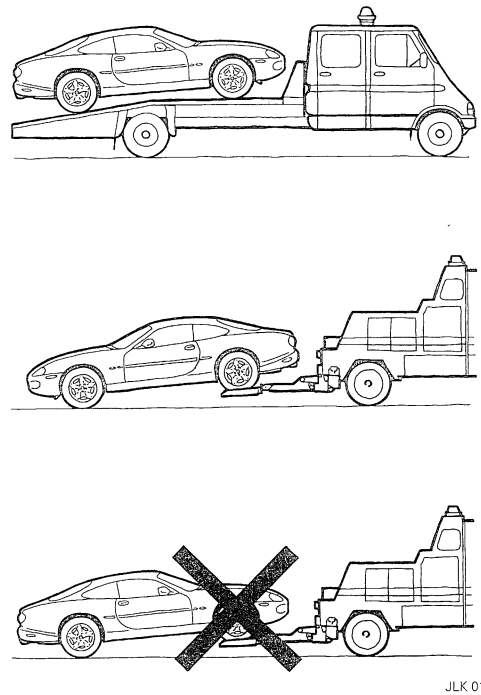
VEHICLE RECOVERY



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Exterior Trim

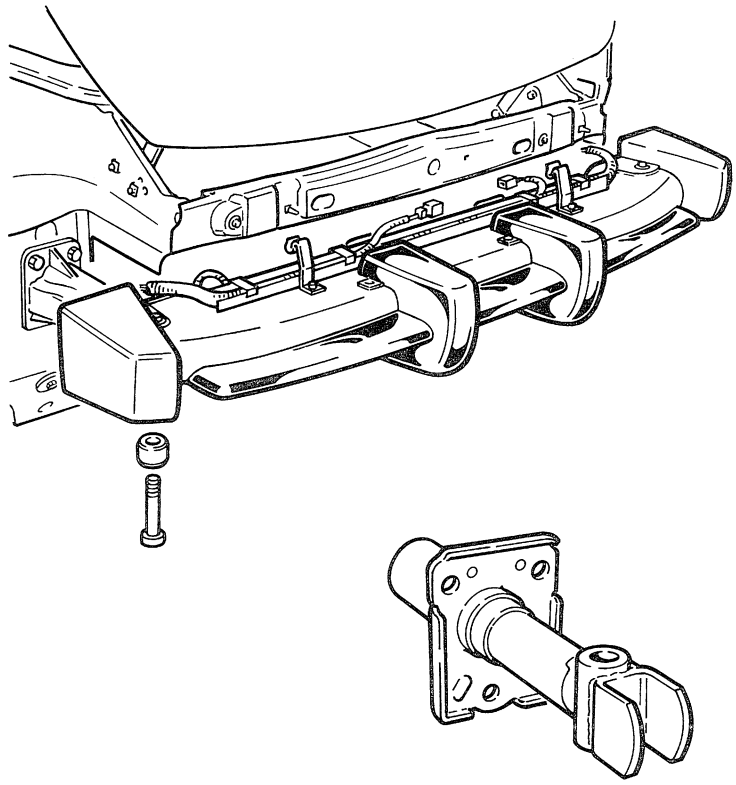
Front Bumper Beam

The front bumper beam is made of aluminum and is bolted to the body via energy absorbing struts. No adjustment of the beam is possible.
Two warning horns and an ambient temperature sensor are mounted on the front bumper beam.

Front Bumper Cover

The body colored front bumper cover is bolted at the top to a cross member, which also has hinge attachments for the hood. The cover is bolted to the lower edge of the fenders and clipped to the lower side of the overriders. The cover has been designed to accept a low speed impact without permanent distortion of the cover. Side markers are incorporated in the bumper covers. An undertray, attached to the lower edge of the bumper cover and body cross member, assists in the flow of air through the cooling pack. Both the overriders and splitter vane are bolted to the beam. The front fog lamps are mounted in the bumper covers.

FRONT BUMPER BEAM AND STRUTS



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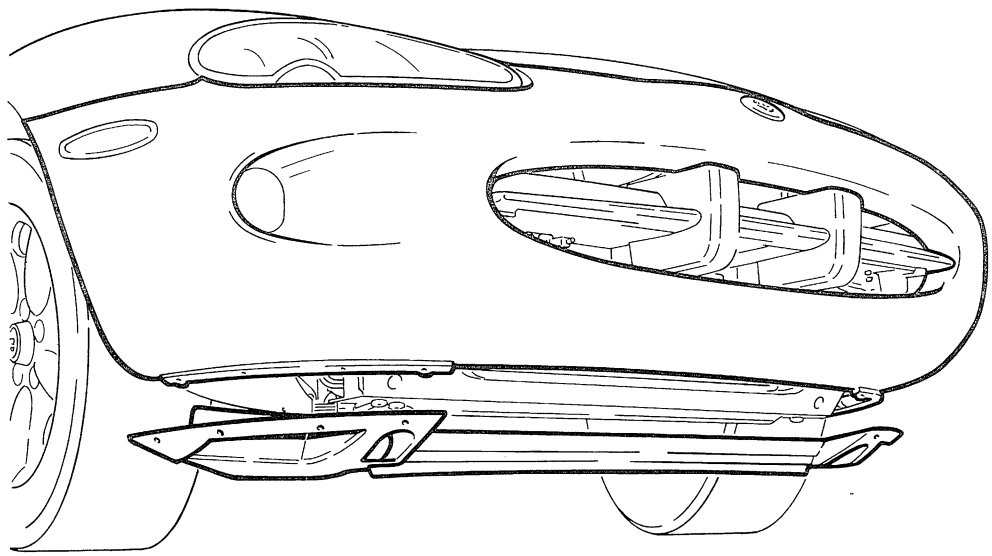
FRONT BUMPER COVER AND UNDERTRAY



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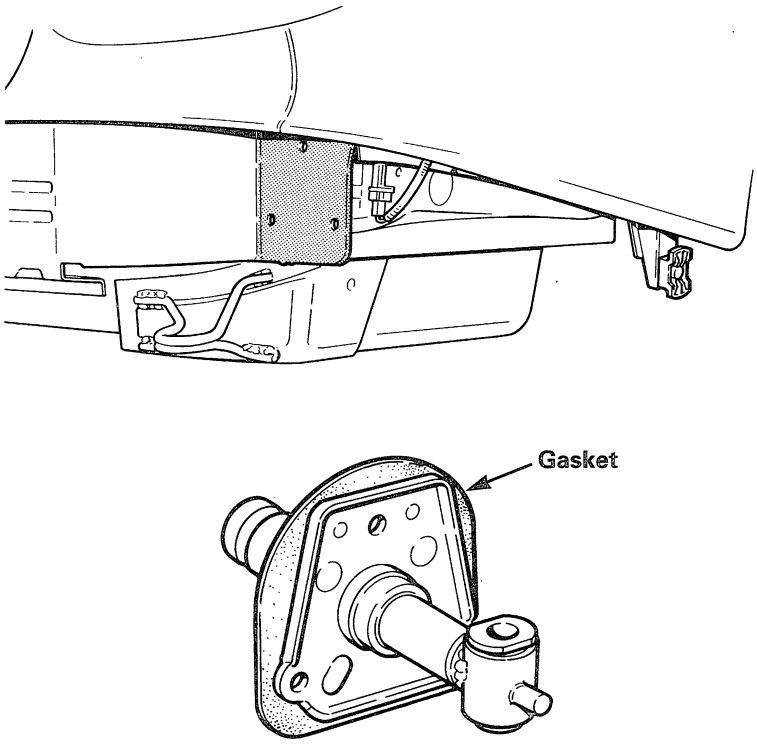
REAR BUMPER MOUNTING POINTS AND STRUTS



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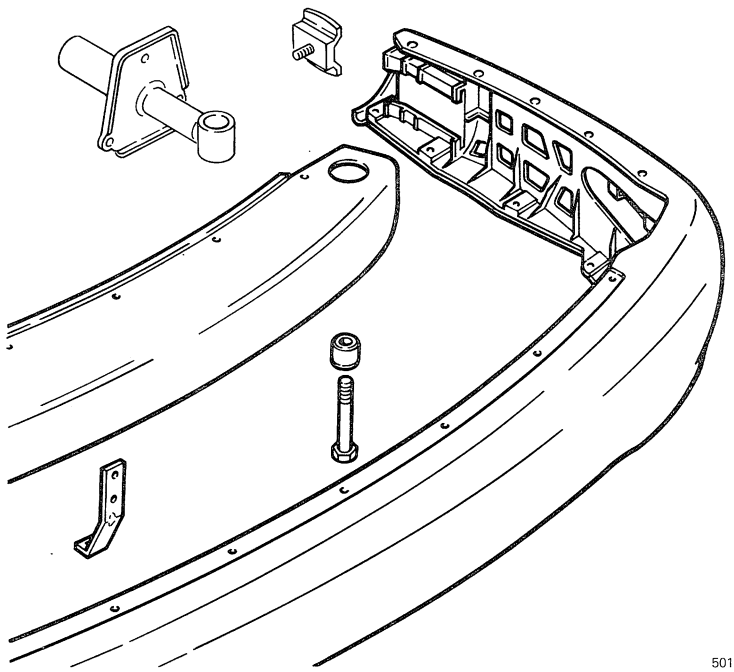
REAR BUMPER BEAM AND COVER



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Rear Bumper Beam and Cover

The rear bumper beam is made from aluminum. The beam is bolted to the body via energy absorbing struts. A gasket is fitted between the strut BIW mounting face to prevent water ingress into the trunk area. Height setting of the rear bumper to body is with adjusters similar to the 95MY sedan.

The bumper cover is riveted to the beam and has a moulded armature attached both sides by rivets. These are then mounted onto guide blocks attached to the body. Bumper covers are body coloured and have the side marker lamp mounting points.

Convertible Top

Introduction

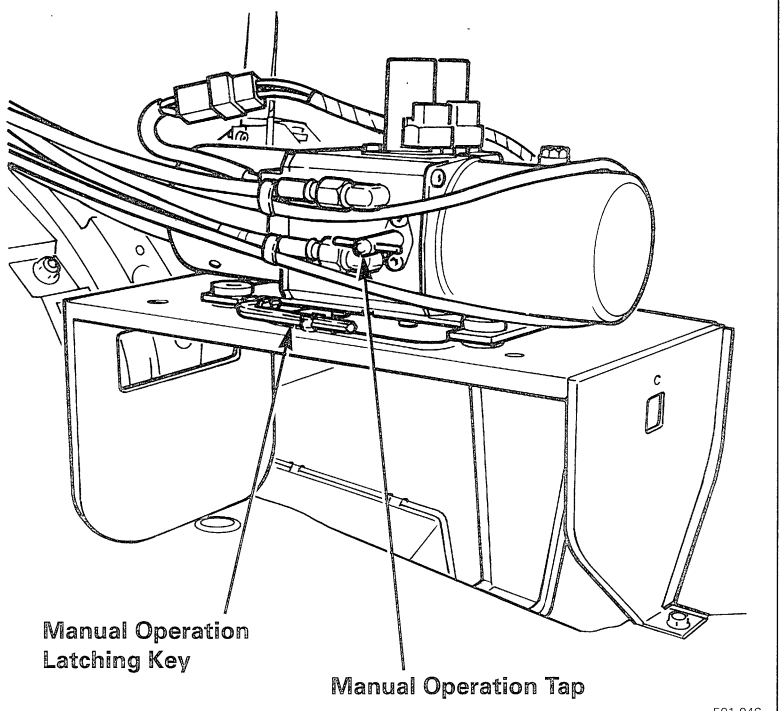
The convertible top is fully lined and padded and fitted to an aluminum frame which has steel linkages. Hydraulic power is used to open, close and latch the top, operated by a single hold-down switch (ROOF) on the center console. This switch also operates the rear quarter glass. The top closes to a low stack height in the body opening of the rear quarter. A green tinted, heated, glass backlight is fitted as part of the top. A new feature is over-center linkage pivoting on the rear wheel arch to hold the top forwards during the latching and unlatching operations.

Caution **It is imperative that the procedure for manual latching/unlatching of the convertible top is read before any moves are made to unlatch the top, (see Manual Latching).**

Operating Pump and Hoses

The convertible top operating pump is located in the right-hand side of the trunk mounted on a steel pressing, which also houses the CD player and power amplifier units (where fitted). The pump operates at a pressure of 140 bar (2030 psi) maximum and is equipped with valves and cylinders to operate the two actuators and the latch mechanism. The high pressure hoses are routed through the rear bulkhead to each of the actuators. The latch hoses pass across the rear seat pan and the right heelboard and up the 'A'-post into the latch plate assembly.

CONVERTIBLE TOP OPERATING PUMP



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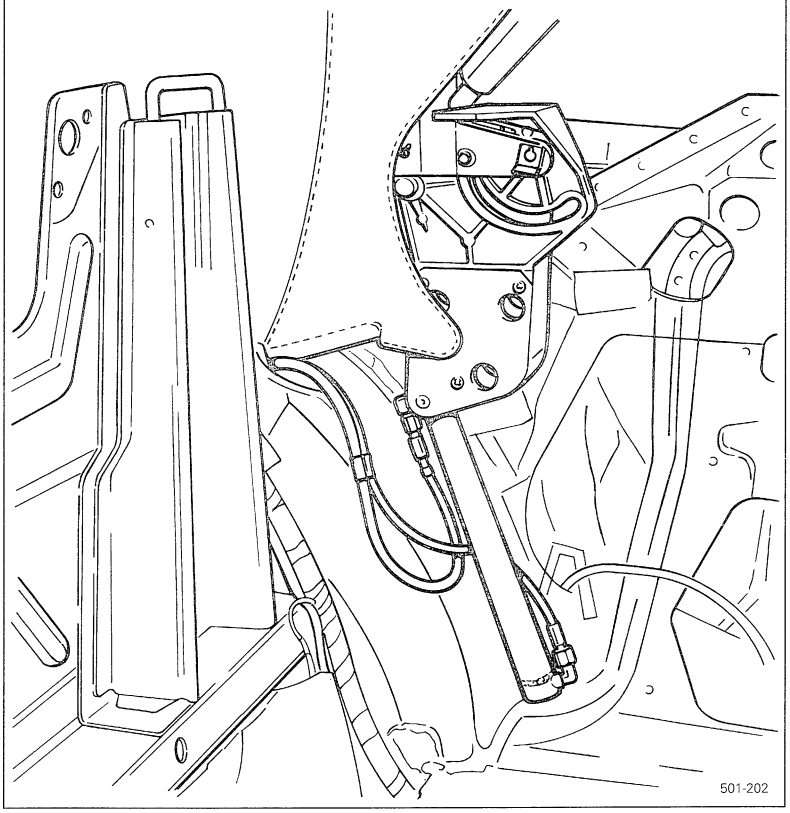
CONVERTIBLE TOP OPERATING CYLINDER



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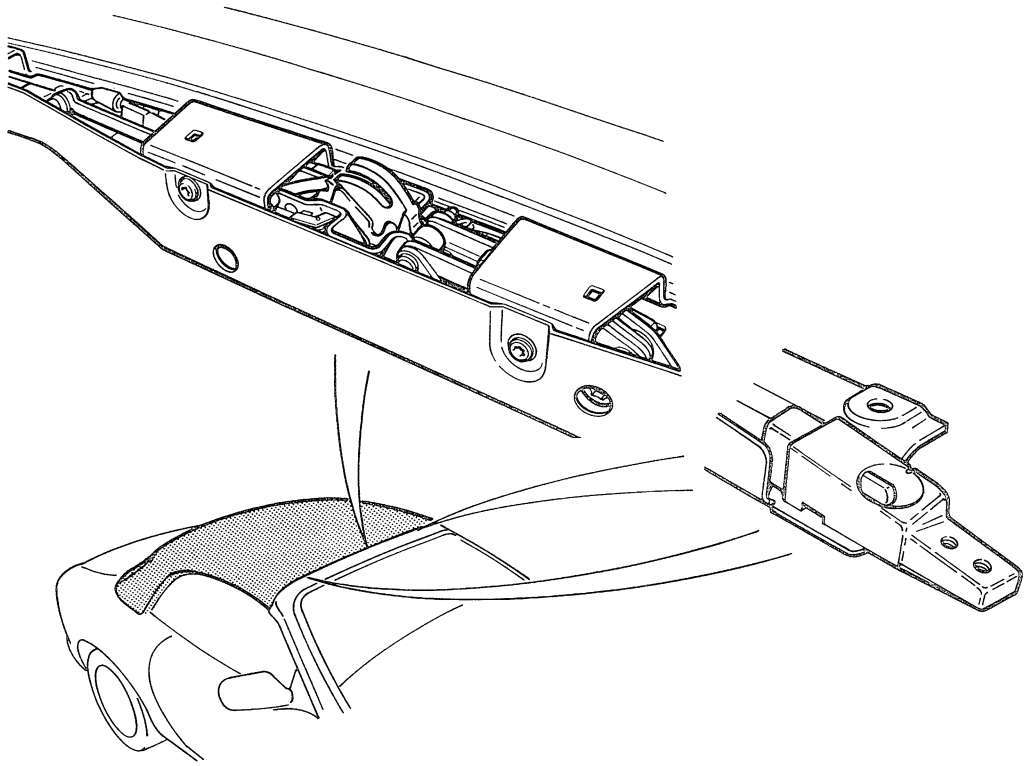
AUTOMATIC LATCHING MECHANISM



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Automatic Latching

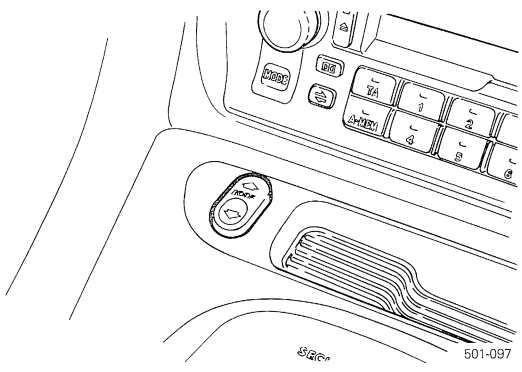
WARNING: Ensure that the convertible top cover is removed and that all personnel and equipment are clear before the convertible top is raised or lowered.

The latching system is supplied as a complete unit and has no serviceable components. Latching of the top is by a hydraulically operated center pull and latch mechanism and two outboard latches. The latch mechanism automatically pulls the top onto the body header and latches it into position. When the top is not latched, an unlatched warning appears on the message center display.

Operation of the convertible top is inhibited, or, if the top is moving it will retract to the lowered position, if the vehicle exceeds 16 km/hr (10 mph). The ROOF NOT LATCHED warning will be displayed on the message center until the next actuation.

The convertible top operating (ROOF) switch must be held to be activated. A short press of the switch operates the rear quarter glass without

CONVERTIBLE TOP OPERATING SWITCH



501-097

operating the top. The operating switch will only activate the top if the ignition switch is in either position I or II.

As soon as the top starts to move an audible warning will sound. Raising and lowering of the convertible top is controlled on the SCP network.

Manual Latching

In the event that the top cannot be powered to the raised or lowered position, provision is made for manual operation.

Note: The convertible top frame uses an over-center link to lock the frame in its forward position. It is essential to carry out the following procedure to manually lower the vehicle convertible top. Because of the possibility of damaging the frame, manual lowering of the convertible top is only recommended as a Dealer function and not an Owner/Driver function. Manual lowering has been deleted from the Driver Handbook.

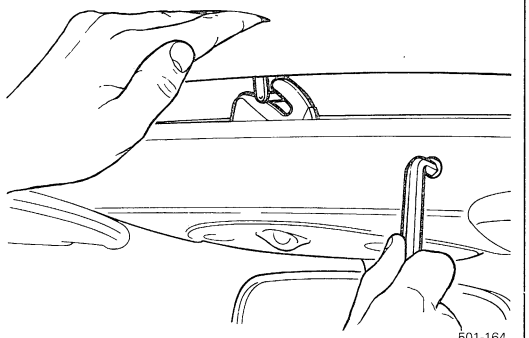
1. Lower the rear quarter glass by pressing the ROOF switch once.
2. Gain access to the pump located in the trunk, (the right-hand side trunk trim carpet must be removed for access to the pump) and turn the manual over-ride tap on the pump body anti-clockwise to place the pump into MANUAL mode.
3. The windsreen header trim has a small round plug, adjacent to the header console, which has to be removed to gain access to the latching mechanism. Insert either the key which is retained in clips on the pump mounting base, or an 8mm Allen key, and unlatch the hood by turning the key clockwise.

Caution: **Do not attempt to lower the convertible top further at this stage.**

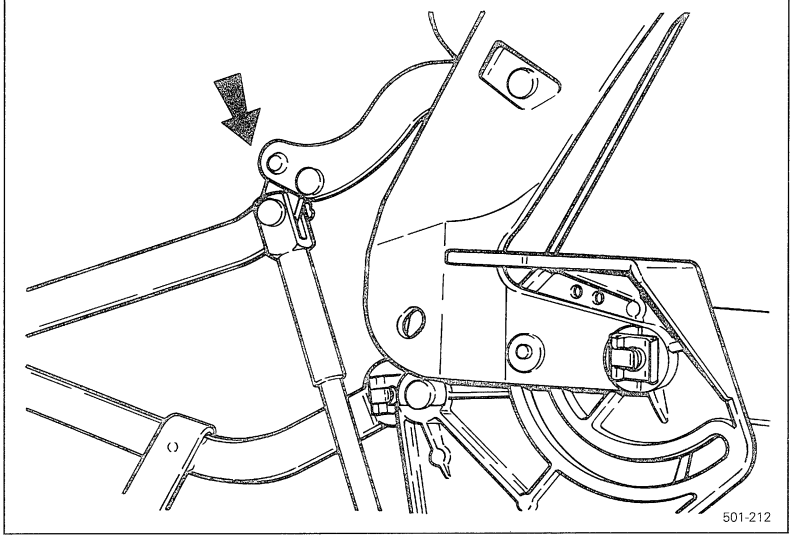
4. Prior to lowering the hood, reach behind the headlining rear quarter curtains and locate both of the convertible top cylinder rams and the linkage to which they are fixed.
5. Pull, in turn, both the left and right hand cylinders and linkage down as far as possible. A significant force may be required.
6. Manually lower the top to its stowed position. (if the hood resists movement repeat step 5)

Caution: **Failure to carry out steps 4 and 5 will result in severe damage to the convertible top frame and/or linkages.**

CONVERTIBLE TOP MANUAL LATCHING



UNLOCKING OVER-CENTER LINK



Sealing

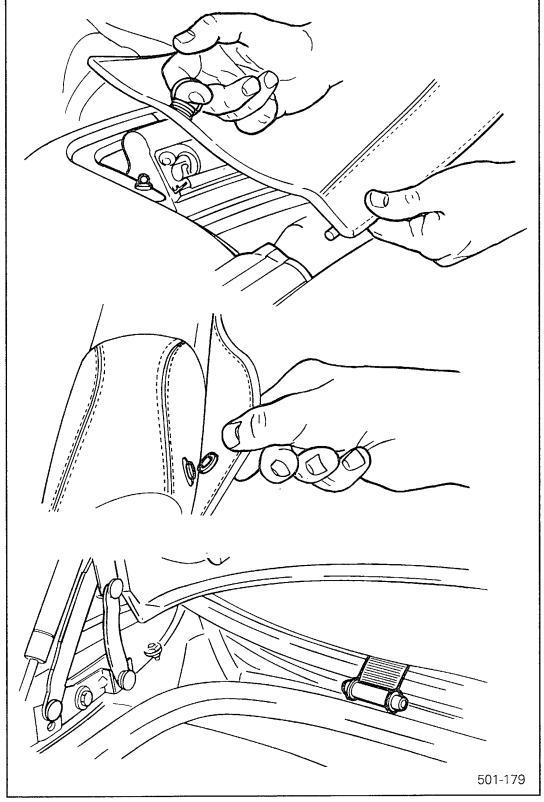
Convertible top seals are slip coated sponge and dense rubber mounted in aluminum carriers. All seals can be replaced without the need for tools except for the cantrail front which is attached by two screws. Rear quarter and top to body seals are made from dense rubber. The rear quarter outer seal includes an aluminum bright finisher and is flange mounted on a pressing which is bolted to the body.

The rear quarter inner seal includes the 'B'-post seal and the 'C'-post seal shot moulded as a single part and is mounted on a carrier screwed to the body and top bearing. The seal is retained by a single screw at the rear end and pegs at the 'B'-post. Top to body seals are flange mounted on BIW parts. The backlight seal is similar to the 1996 MY XJS.

Convertible Top Cover

A one piece soft convertible top cover, color coded to the vehicle interior, provides cover for the convertible top when it is lowered. The cover is held in place by two Tenax fasteners and two press studs. It is retained by the trunk lid when in place and is stowed in a bag in the trunk when not in use. Fit the cover whenever the top is lowered to prevent the top from fading in irregular bands. Always roll with the face side outwards, to avoid creasing.

CONVERTIBLE TOP COVER



501-179

Glazing

Both the windshield and coupe backlight are supplied as assemblies complete with trim. The trim is fixed to the glass with clips and is fully demountable when the assembly is bonded into the vehicle.

All trim is aluminum alloy painted Dorchester Grey. Windshields, backlights and quarter lights, except for the convertible model backlights and quarter glass, are direct glazed to body.

Windshield

The windshield is 5mm (0.2in) laminated glass, green tinted, with a black obscuration band and has the 95MY sedan interior mirror mounting bracket fitted. Coupe and convertible windshields are common units. Some market options have a fine wire heated windshield, with the switch positioned on the climate control panel (see also Climate Control Section). The finisher is a one-piece, single color with seal.

Backlights

The coupe backlight is 4mm (0.16in) tempered glass, green tinted and heated. The heated backlight remains on for 21 minutes after being switched on unless the driver switches it off before the time delay expires (see also Climate Control Section). Coupe backlights are fitted with a security antenna.

The convertible backlight is similar to the coupe but does not have the security antenna fitted and is conventionally glazed.

Door Glass

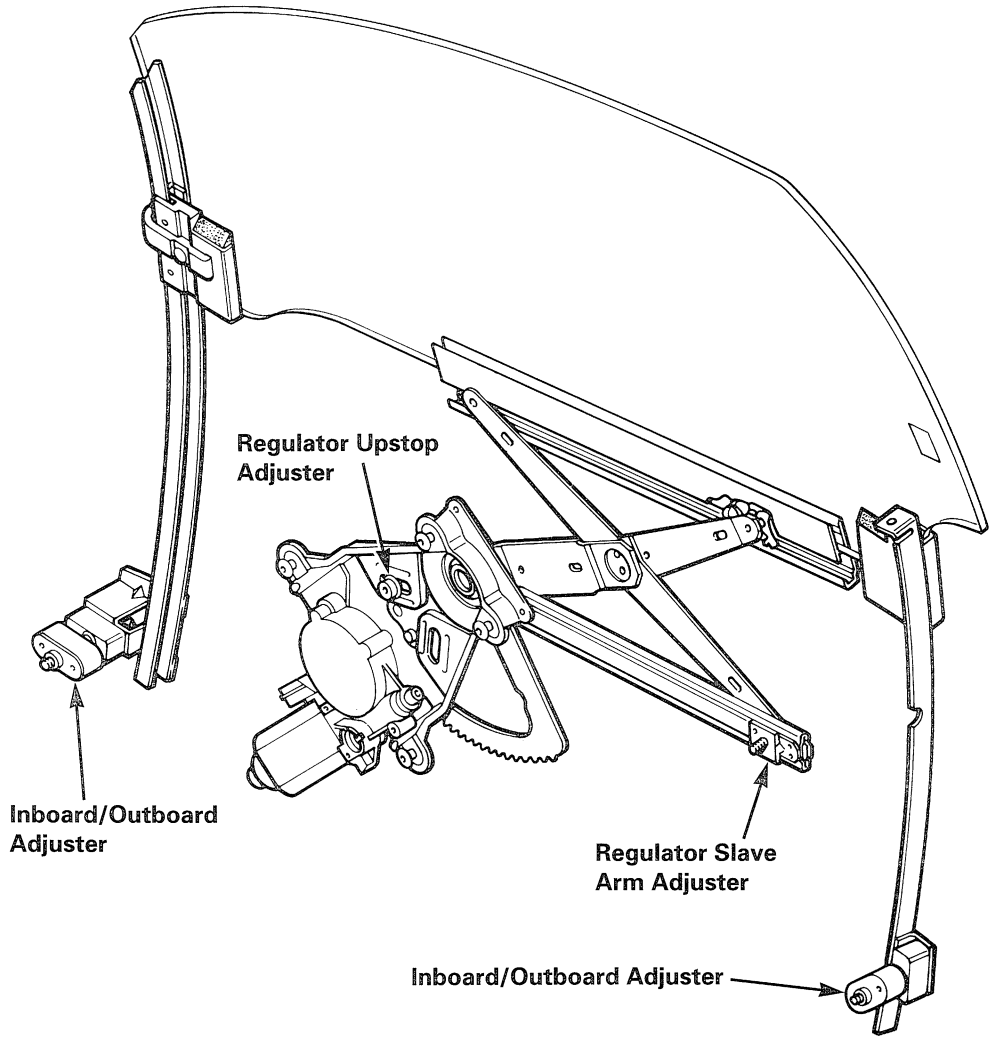
Caution: **Ensure that the glass of both front doors and the convertible quarter lights are lowered by at least 15mm before disconnecting the battery. This is to ensure that the seals and glass are not damaged by opening or closing the doors or convertible top with the glass fully raised.**

The door glass is a frameless system with 5mm (0.2in) green, sundym, tempered glass bonded to the mechanism framework. Each door glass is operated electrically and is raised and lowered by a scissor mechanism regulator.

The glass can be removed from the door without upsetting the glass setting. Glass inboard and outboard adjustment, when required, is by means of plastic adjusters fitted to the lower ends of the side members. These are accessible by removing the puddle lamp and/or speaker and do not require trim removal.

Profile/height adjustment is made through the regulator upstop and regulator slave arm.

DOOR GLASS AND MECHANISM



Door Glass Movement

The door glass is operated by the DDCM and the PDCM from the switchpacks located in the driver and passenger door arm rests. The switchpacks are illuminated when the sidelights are on.

- Each door glass automatically drops 15mm (0.65in) when the door is opened and closes when the door is closed.
- The glass of both front doors will open when the convertible top is raised and close when the top is fully raised and latched in position.
- Each door glass has a one touch down facility.
- If the key barrel lock switch is held active for more than 1.5 seconds then the door glass and the convertible rear quarter light glass will be driven closed unless the key is released.

The glass in both doors operate with the ignition switch in either position I or II and for 30 seconds after ignition is switched off or the associated door is opened.

Caution: **With the transit relay fitted, do not operate more than one door glass at a time.**

Resetting Door Glass Position

If the power supply to the DDCM or PDCM is disconnected (battery disconnected, module unplugged or fuse removed) or a PDU or scan tool is connected to the ISO connector and diagnostic checks are made, then the modules must relearn the glass characteristics.

The last known glass position is regarded as top of travel by one touch operation until relearning has taken place. One touch down, manual up and down control and the automatic lowering of the glass for door opening are unaffected. For the control module to learn the glass characteristics the door must be closed (door ajar switch inactive and the ignition switch in position I or II) then drive the glass fully down and hold it stalled at the bottom of its travel for a minimum of one second. Drive the glass fully up and hold stalled for a minimum of one second. The relearning procedure must also be accomplished before automatic glass closing is allowed.

Coupe Quarter Lights

The rear quarter light glass fitted to the coupe is a 4mm (0.16in), tempered direct glazing unit also with a green tint. For adhesive depth control, there are studs bonded to the glass at the B-post and a spacer button at the rear.

Convertible Quarter Lights

Rear quarter light glass for the convertible is 5mm (0.2in), tempered, semiflush and green tinted. These quarter lights have a drum and cable lowering and raising system to give full glass drop when the convertible top is lowered. Operation of the rear quarter glass is incorporated into the convertible top operating (ROOF) switch.

Convertible Quarter Light Logic

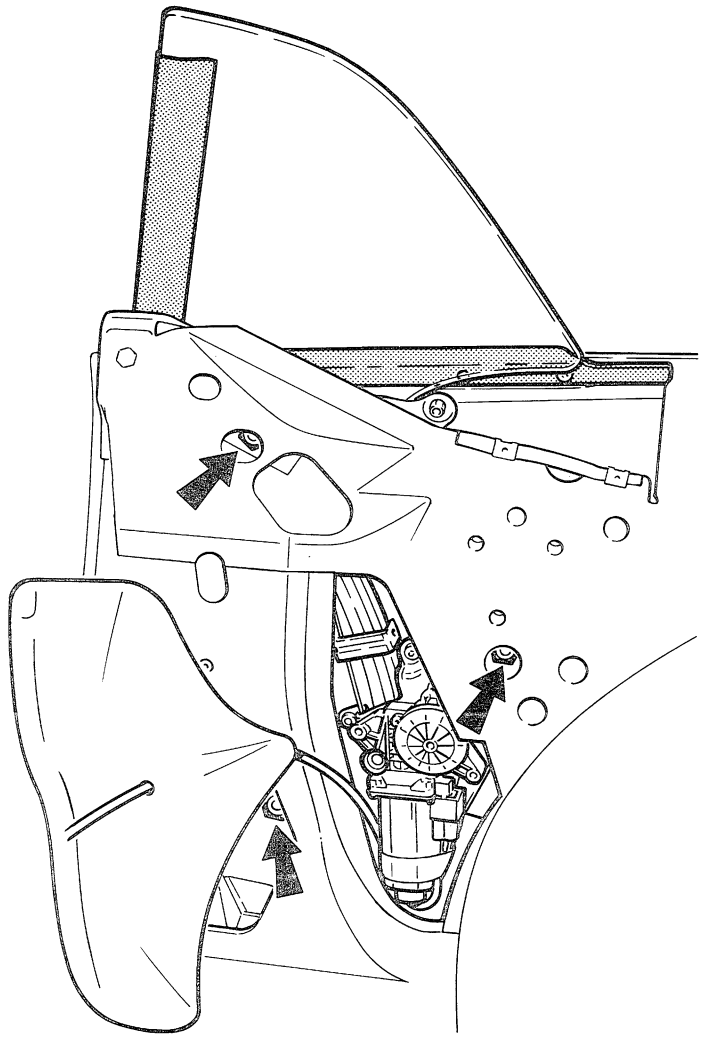
- If the convertible top is lowered, both rear quarter lights will also fully lower, and cannot be raised until the convertible top is raised. The quarter lights will raise automatically when the convertible top is raised but will not power up to a level higher than the door glass.

- As the convertible top is being raised, if the door glass is at the top of its travel then the glass will be powered down 15mm (0.65in) and the rear quarter lights will be powered down to the bottom of their travel. When the convertible top is fully raised and latched, all glass will be powered up to close to form a seal with the convertible top.

Sealing

The rear quarter glass on the convertible carries the door glass to quarter glass seal. The convertible top mounted seals are slip coated sponge and dense rubber mounted in aluminum carriers. The moulding at the end of the header incorporates a drip catching feature which drains through the A-pillar seals. The rear quarter and convertible top to body seals are made from dense rubber. The rear quarter seal includes the aluminum bright finisher and is flange mounted on a pressing bolted to the body. The rear quarter inner seal includes the B-post seal and the C-post seal, shot moulded as a single part. This is mounted on a carrier screwed to the body and convertible top main bearing. The seal is retained by a single screw at the rear end and by pegs at the B-post. Convertible top to body seals are flange mounted on BIW parts. The backlight seal is similar to the XJS.

CONVERTIBLE QUARTER LIGHT ARRANGEMENT



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Doors and Door Mirrors

Doors

The doors are common to both coupe and convertible, with a frameless glass system, door mounted seals and demountable hinges with separate multi-stage check arms.

Each exterior handle, has an integrated switch for glass drop on opening. Additionally, the driver door handle has an integrated key barrel.

The interior door handles can be pushed inwards to lock the door and the drivers side surround carries the memory switches.

The cheater is formed from the door mirror base and a felt covered inner cheater. The dense rubber moulded seal is integral with the secondary door seal. Tweeters are fitted in the inner cheater as part of the premium in-car entertainment option.

Door seals are double seals below the waist, peg mounted and terminate in waist mouldings.

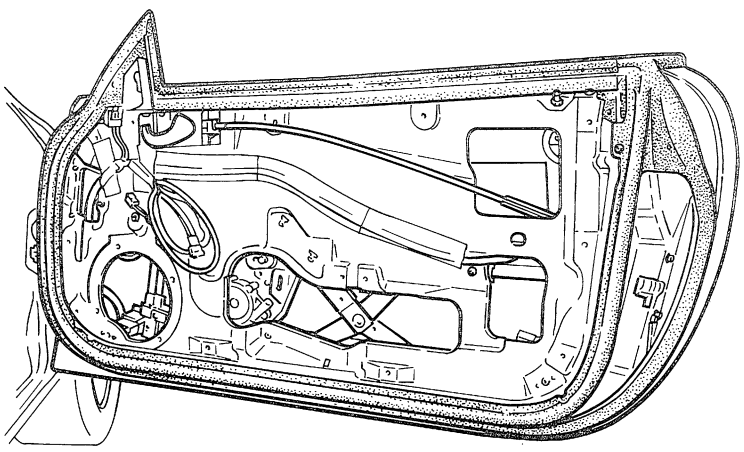
Driver and passenger doors contain the DDCM and PDCM, which are connected to the SCP network. These are located forward of the glass guide and above the in-car entertainment speakers which are fitted into the door casing.

Door modules control the raising and lowering of the door glass, locking and security, puddle lamp and door mirror movement and heating functions.

A driveaway door locking function is incorporated into the software and is activated when the transmission is taken out of Park or Neutral position.

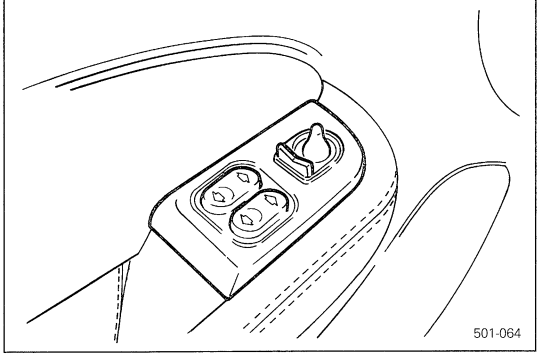
Each door has a combined rearguard/puddle lamp mounted in the door pocket casing.

DOOR



501-033

DRIVERS DOOR SWITCH PACK



501-064

Door Mounted Switches

Driver door mounted switches enable control of driver and passenger door glass, door mirror adjustment. The passenger door switch only operates the front passenger door glass. The motors are controlled by each door switchpack through the DDCM and PDCM, including memory functions.

Door Mirrors

The color keyed, electrically operated, door mirrors are heated. Control of the heaters is by selection of backlight heating on the air conditioning control panel, no separate switches are provided. Mirror memory is a standard feature on all cars.

Door Mirror Dipping (where fitted)

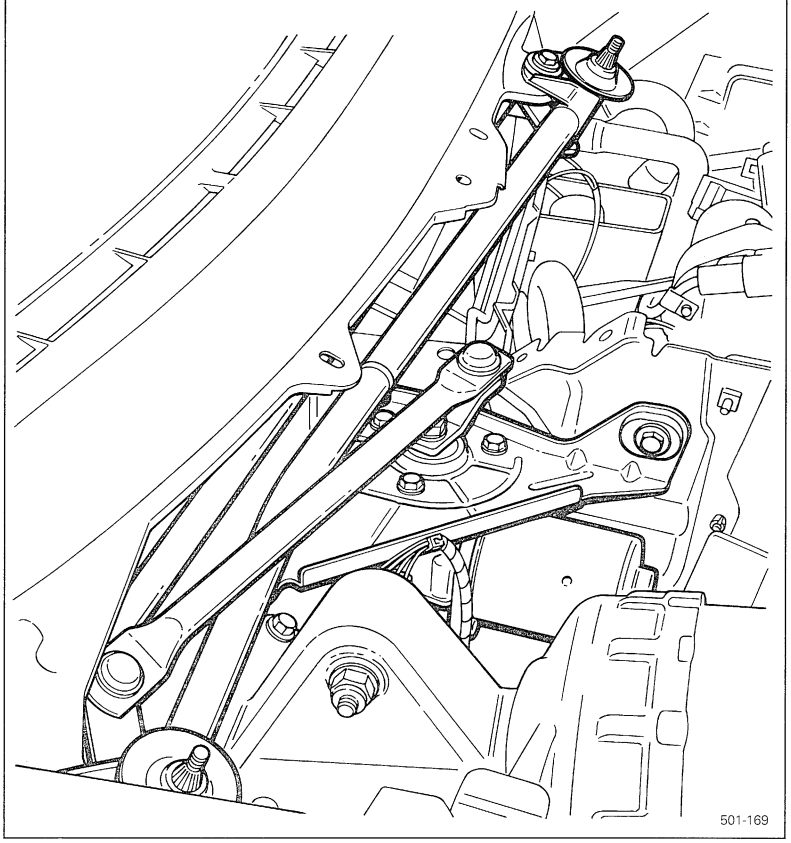
Dipping of the passenger door mirror for reversing is a function of all vehicles with driver seat memory and mirror memory functions. Firstly, with the ignition switch in position II, the gear selector is moved to reverse. The mirror joystick is then moved rearwards which will dip the mirror. Dipping is either 7 degrees in a downward direction, bottom of travel or 5 seconds of travel dependent on which condition is satisfied first. When the gear selector is moved from reverse, or the joystick is pushed forwards, or the ignition switch is moved from position II, the door mirror will return to its original position.

Windshield Wipers and Washers

Wiper Mechanism

The windshield wiper motor, with integral microswitch for overload protection, and wiper mechanism is mounted in the plenum below the windshield. The vehicle has a conventional twin wiper arm system with synthetic rubber blades and wiper arm mounted windshield wash jets. The blades are common for driver and passenger and are not handed. The wipers park on the windshield. Wiper modes are slow, fast, flick wipe and intermittent wipe. Intermittent wipe has six positions ranging from 2 to 20 seconds. An extra wipe occurs 4 seconds after a wash/wipe to clear any remaining drips from the windshield. The wipers, windshield wash and headlamp power wash are controlled by, and hard wired to, the BPM.

WINDSHIELD WIPER MECHANISM

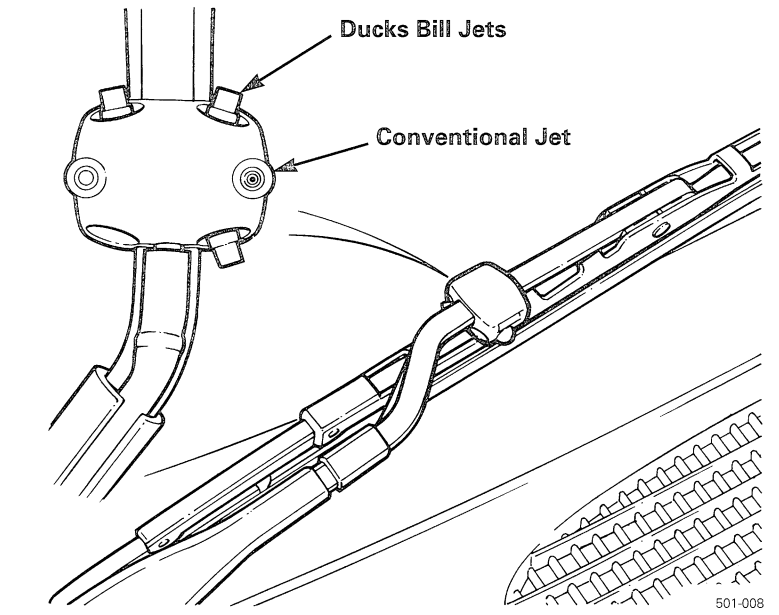


501-169

Windshield Wash Jets

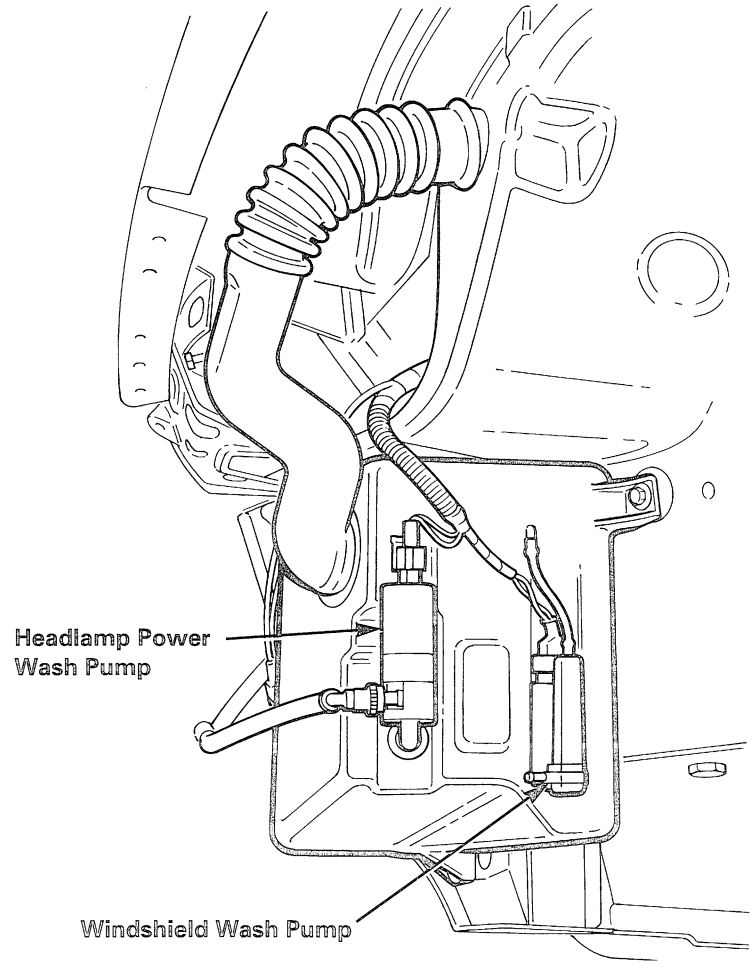
Three of the four jets on each wiper arm are made of rubber in the form of a ducks bill, the other, on the underside of the unit facing the screen, is a conventional jet. Jets are designed to resist freezing, eliminating the need for heated nozzles. The jet assembly and windshield washing tubing is supplied assembled to the wiper arm. The tubing is fitted to a connector which is part of the plenum cover assembly. The jet housings are a snap fit to the wiper arms and may be separately removed.

WINDSHIELD WASH JETS



501-008

WASHER RESERVOIR



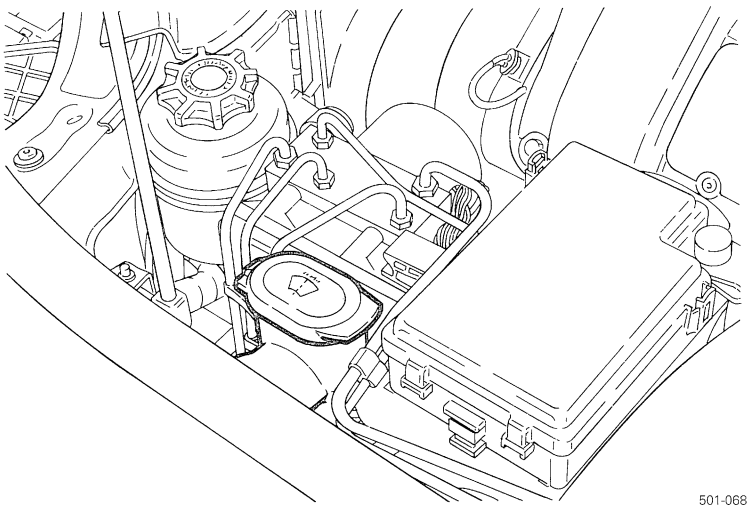
Washer Reservoir

The washer reservoir, mounted in the front left side fender forward of the wheel arch, contains up to 7 litres (1.85 US gall) of liquid and has a low level sensor. The sensor is integral with the windshield washer pump.

The filler neck cap is located under the hood on the left side adjacent to the power steering reservoir and the brake modulator.

Separate wash pumps are fitted, one for windshield wash, and one for headlamp power wash when this feature is fitted. The windshield wash pump is active for a maximum of 20 seconds while the switch is held.

WASHER RESERVOIR FILLER CAP

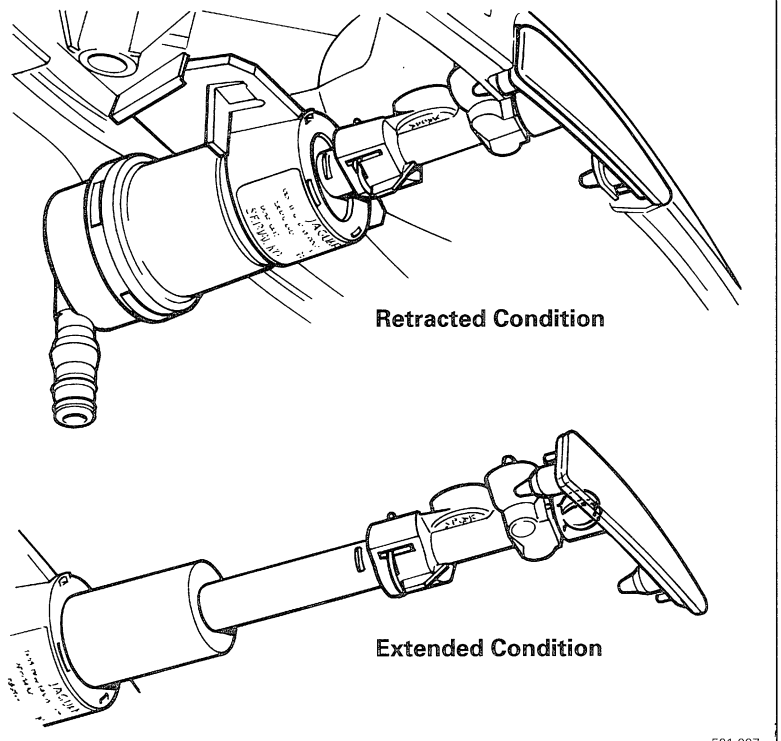


Headlamp Power Wash

A vehicle option is headlamp power wash. The power wash unit is a 72mm (2.83in) long telescopic assembly which snaps on to the underside of the headlamp assembly and has a glass cover to maintain the profile appearance of the headlamp. These washers are operational when the headlights are on or daylight running is enabled, the washer fluid does not indicate low level, and the ignition switch is on. When wash/wipe is activated and held, the headlamp wash pump operates and sprays once for 800 milliseconds, waits 6 seconds and then sprays again. When the switch is released, further power wash cycles will be inhibited for the next 5 wash/wipe operations to conserve wash fluid.

All power wash fittings are snap fit. Water pressure extends the telescopic arm and a spring returns it to the closed position after the pump completes its cycle. Jet assemblies are handed and are not heated. The wash/wipe system is operated from switches on the steering column via the BPM.

HEADLAMP POWER WASH ASSEMBLY



501-007

Interior Trim

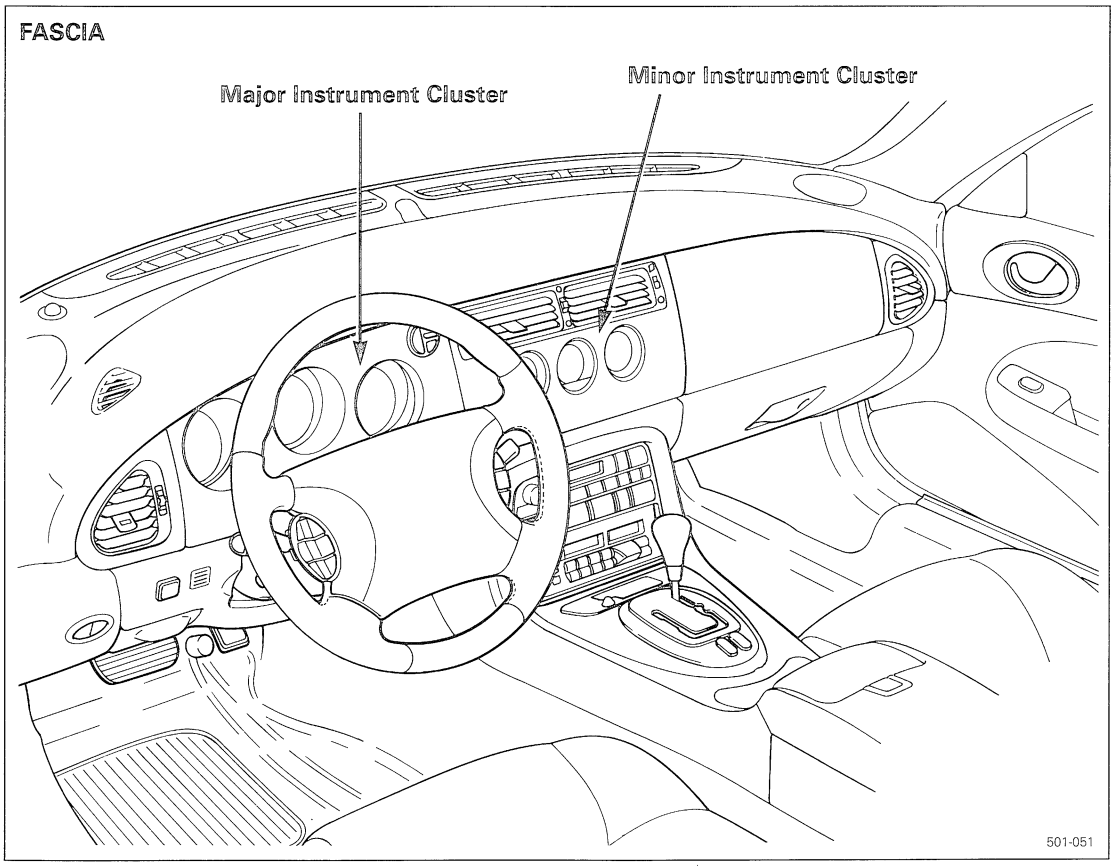
Fascia

Integrated within the fascia are the major and minor instrument clusters, air ducting and vents controlling air flow for conditioning the cabin and demist of the windshield and door glass. An in-car sensor for solar loading is incorporated into the driver side of the fascia.

Removable flaps are fitted at each end of the fascia to give access to the two fuseboxes, the inertia switch and the dimmer module. The drivers knee bolster has a louvre for the thermistor and motor/fan assembly for cabin air temperature sensing.

The steering wheel is 95MY sedan carry-over but incorporates in-car entertainment controls and cruise control switches. The drivers airbag/SRS is mounted in the center of the steering wheel.The horn is operated by pressing the center of the driver airbag/SRS.

Below the veneered housing containing the passenger airbag is the illuminated and lockable glovebox. Included within the glovebox is the driver literature pack and pen holder.



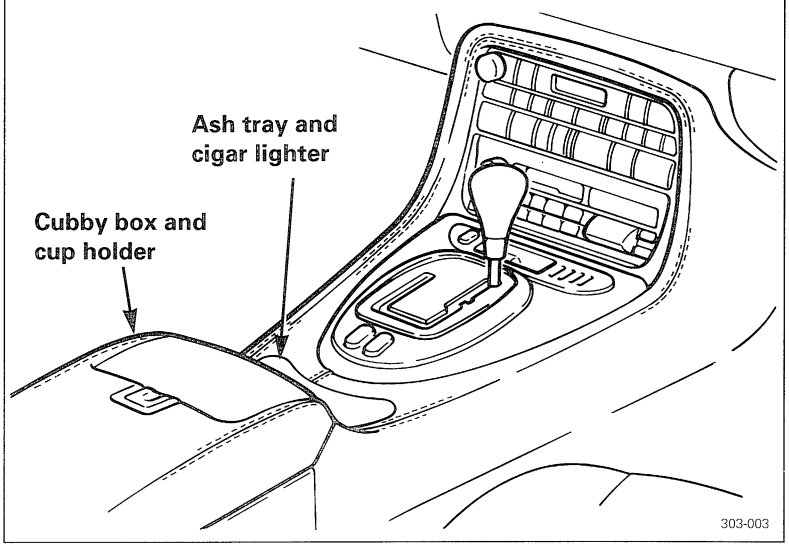
Center Console

The center console houses the:

- Gear selector
- Cruise control switch
- Sport mode switch
- Ashtray and cigar lighter
- Cubby box with cup holder (where fitted) and a telephone with its power supply (where fitted)
- Coin holder
- Convertible top operating (ROOF) switch

It also surrounds the in-car entertainment controls, center console switchpack and climate controls and display.

CENTER CONSOLE



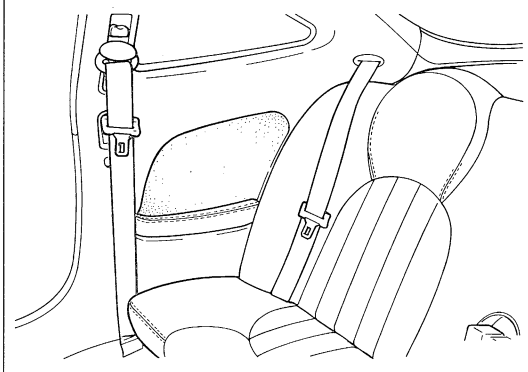
303-003

Trim

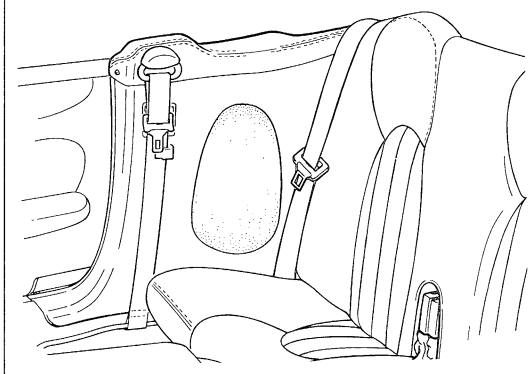
The coupe rear parcel shelf is trimmed in headlining cloth and has provision for air extraction and cloth covered speaker. Acoustic cloth covered speakers, integral armrests and stowage trays are incorporated in the coupe one-piece rear quarter moulded casing. The convertible rear quarter casing is similar to the coupe but does not have the armrests fitted. The body has two-piece carpets joined at the center console.

Roof trim in the coupe is a one-piece moulded 6mm (0.25in) thick headlining in cloth supported by the sun visor fixings at the front and rear quarter casing at the rear. Storage pockets are provided in the front doors.

REAR QUARTER CASING



Coupe



Convertible

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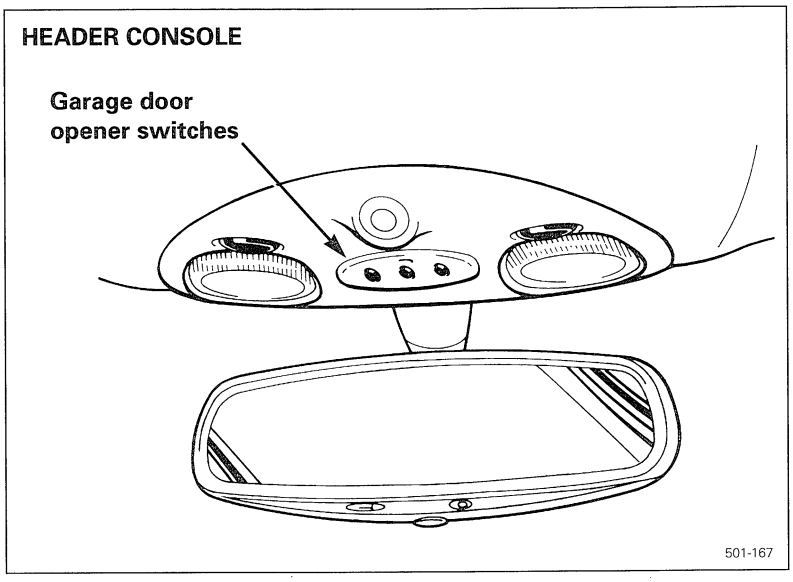
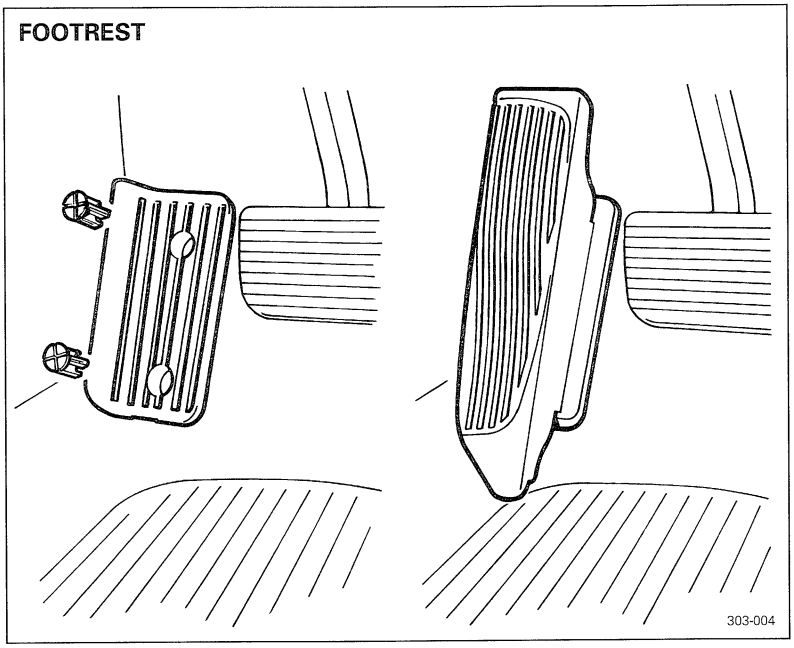
HEADER CONSOLE



FOOTREST



Header Console

The header console incorporates two courtesy lamps which include switchable map lights. The convertible has a padded serviceable headlining and header console. Included in the header console is the three-channel garage door opener switches.

Interior Rear View Mirror

The interior rear view mirror is an electrochromic prismatic mirror. The mirror sensor is driver controlled by a mirror mounted switch. This switch is ON/OFF only, not a slider bar as the 96MY sedan. When reverse gear is selected the mirror sensitivety is reduced to allow clear rear vision. For the convertible vehicle the lowering of the convertible top reduces the sensitivity of the sensor. The electrochromic mirror also controls the electrochromic door mirrors, when these are fitted.

Footwell

A drivers footrest is fitted which is two position adjustable to cater for leg length. This is achieved by removing a normally fitted extension section. The base footrest is screwed to the floorpan though two holes. When the extension is removed from the base rest two plugs are extracted with the extension. The two plugs must be removed from the extension and refitted to the base rest.

Footwell lamps are provided for driver and passenger. These are mounted on the fascia underside.

Seats

The classic style is standard fit for both the coupe and convertible Each front seat has five vertical flutes with leather facings and center panels and color keyed stitching. The driver's seat has height rise adjustment. Seat heating is an optional feature except when fitted as part of the cold climate pack.

Both driver and passenger seat has a rear map/stowage pocket which is ambla trimmed. Mounted on the upper outside of the seats is a lever which allows the seat squab to fold forwards.

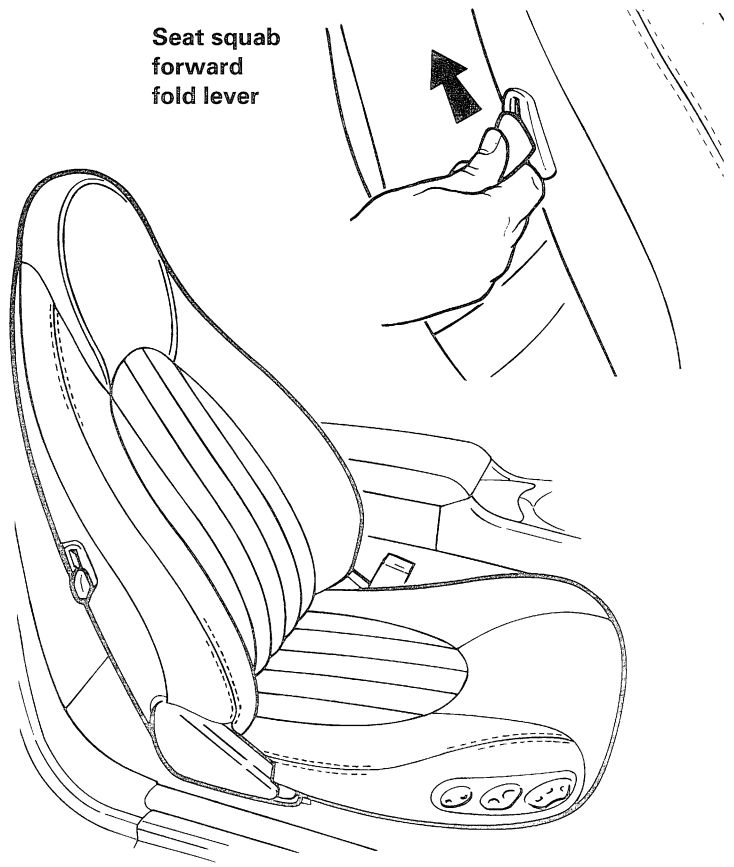
Seat Movement Controls

Power seat switch assemblies are fitted in the outboard side of the driver and front passenger seats. The power seat switches are color keyed with the seat trim. These switches, through the seat control modules, operate motors for fore and aft, recline, and raise and lower movements of the seat. A separate switch operates the lumber pump motor. Only one of the slide, recline or height motor outputs can be driven at any one time under manual control.

Each motor is fitted with feedback potentiometers (except the lumbar pump motor).

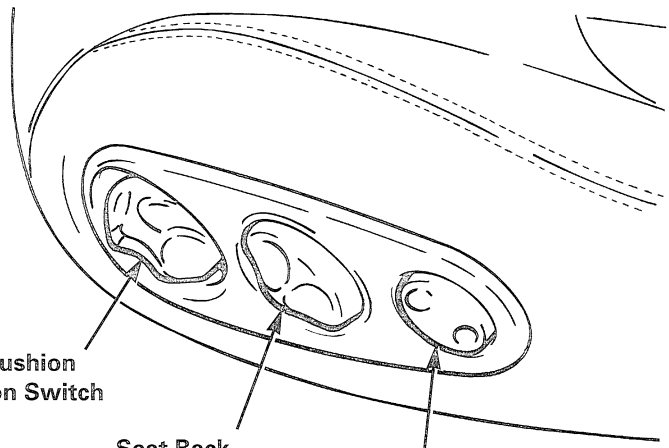
All motor connectors are adjacent to the respective motor to aid removal without the need to remove the harness. The illuminated seat heater on/off switches, (where fitted) are mounted in the center console.

FRONT SEATS



501-178

POWER SEAT SWITCHES

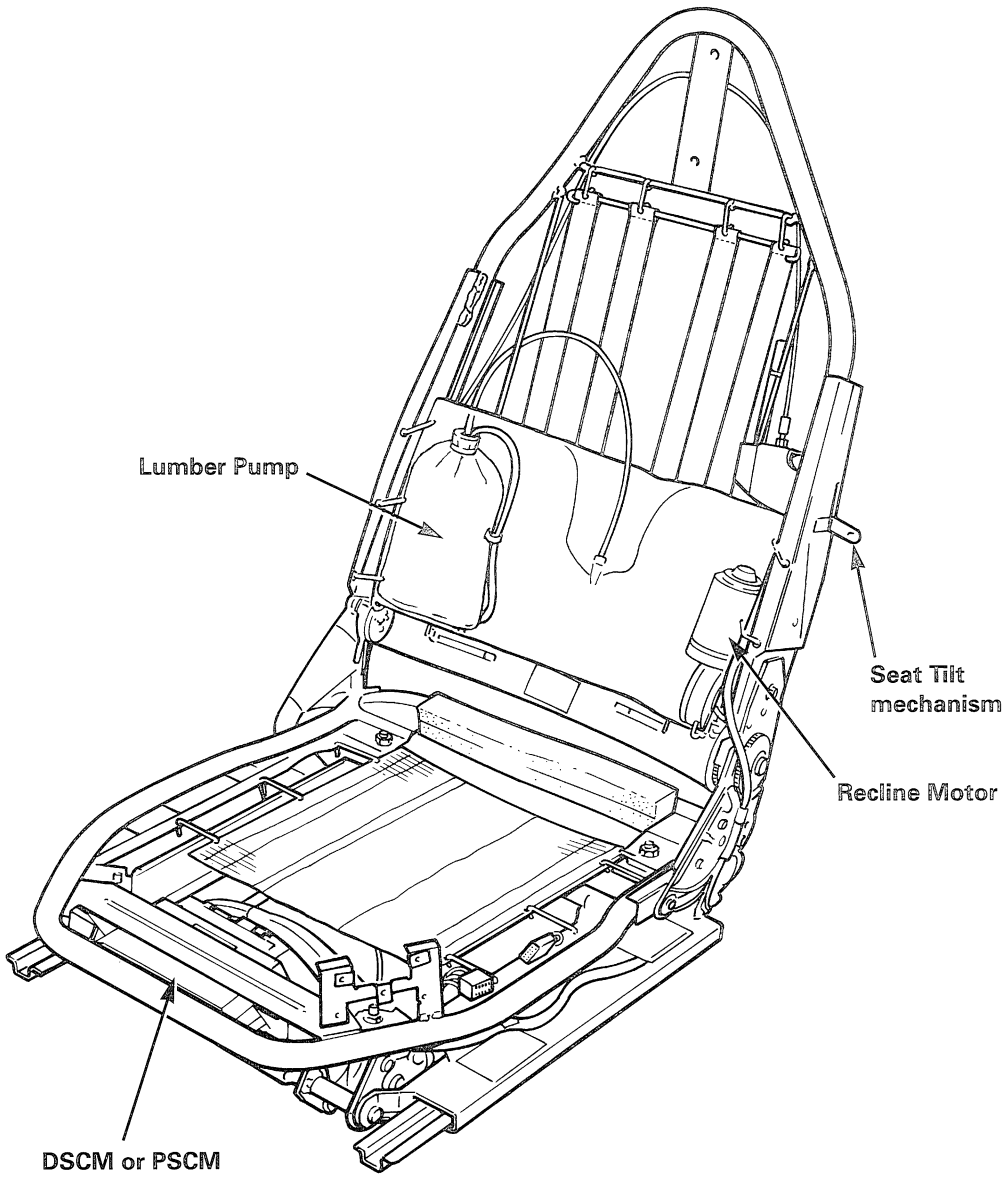


501-172

Front Seat Frames

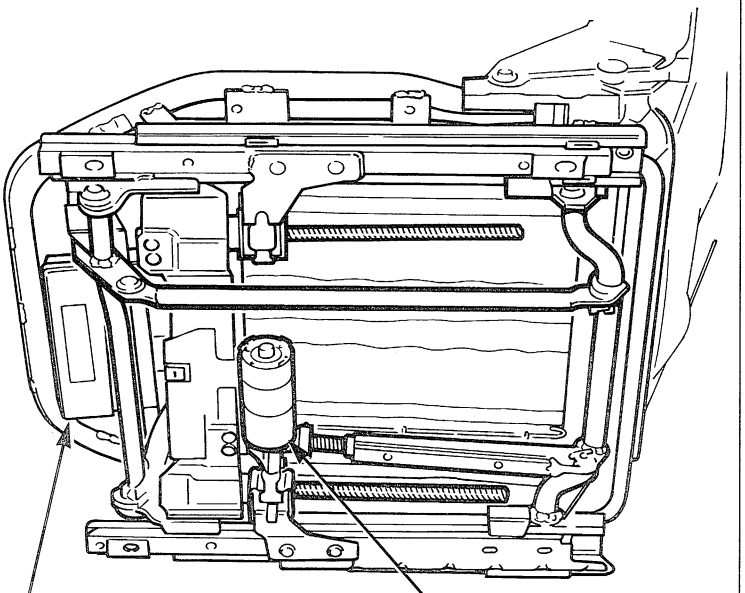
The front seat frames and slides are modified XJS seats with new upper pressings and integral headrest to achieve a more distinctive and modern style. The DSCM and PSCM are mounted on brackets below the front of the seat frames and are connected to the SCP network. The modules control seat and squab movement, seat heating (where fitted) and the lumbar pump.

FRONT SEAT FRAME



501-177

FRONT SEAT FRAME WITH HEIGHT ADJUSTMENT

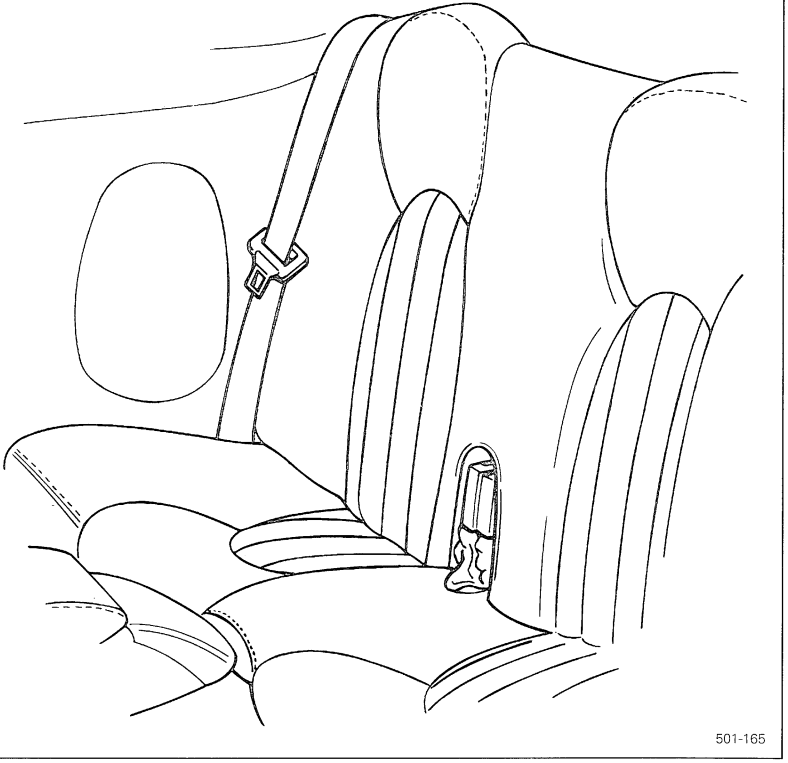


501-062

Rear Seat

The convertible and coupe rear seats are not interchangeable. The rear seats are wire-framed units with cushions and squab to match the front seats. No adjustment of the rear seats is provided. The center of the single piece rear seat has a gaiter incorporated through which the seat belt buckles pass. The buckles can be located in a recess in the squab. The convertible top rear seat is provided with fixing studs at the top rail for attachment of the convertible top cover.

REAR SEAT



501-165

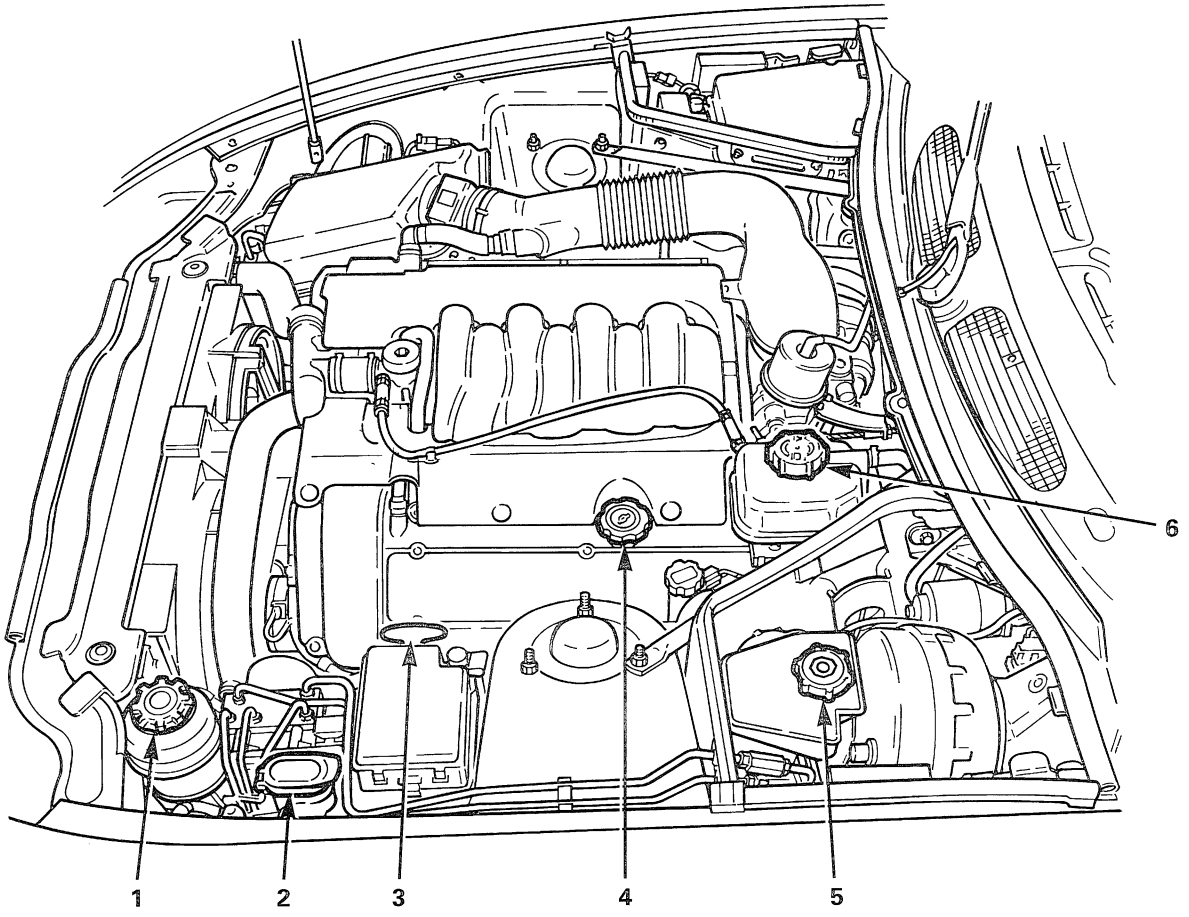
Engine Compartment

Two forward bulkhead extensions are located against the main engine compartment bulkhead and fenders. The left-hand compartment carries the brake booster and master cylinder and relays. The other compartment carries the ECM, TCM, relays, fusebox and a cooling fan. Air for cooling the compartment is taken from, and returned to the cabin by ducting.

At the front left side of the engine compartment are located the windshield/headlamp wash reservoir filler, the power steering oil reservoir, left front fusebox and the brake control module.

An electric motor driven water pump and valve are located centrally against the bulkhead. The valve is located behind a heat shield and below the coolant reservoir/header tank.

ENGINE COMPARTMENT



1 Power Steering Reservoir
2 Windscreen Washer Reservoir
3 Engine Oil Dipstick
4 Engine Oil Filler
5 Brake Fluid Reservoir
6 Coolant Reservoir Filler Pressure Cap

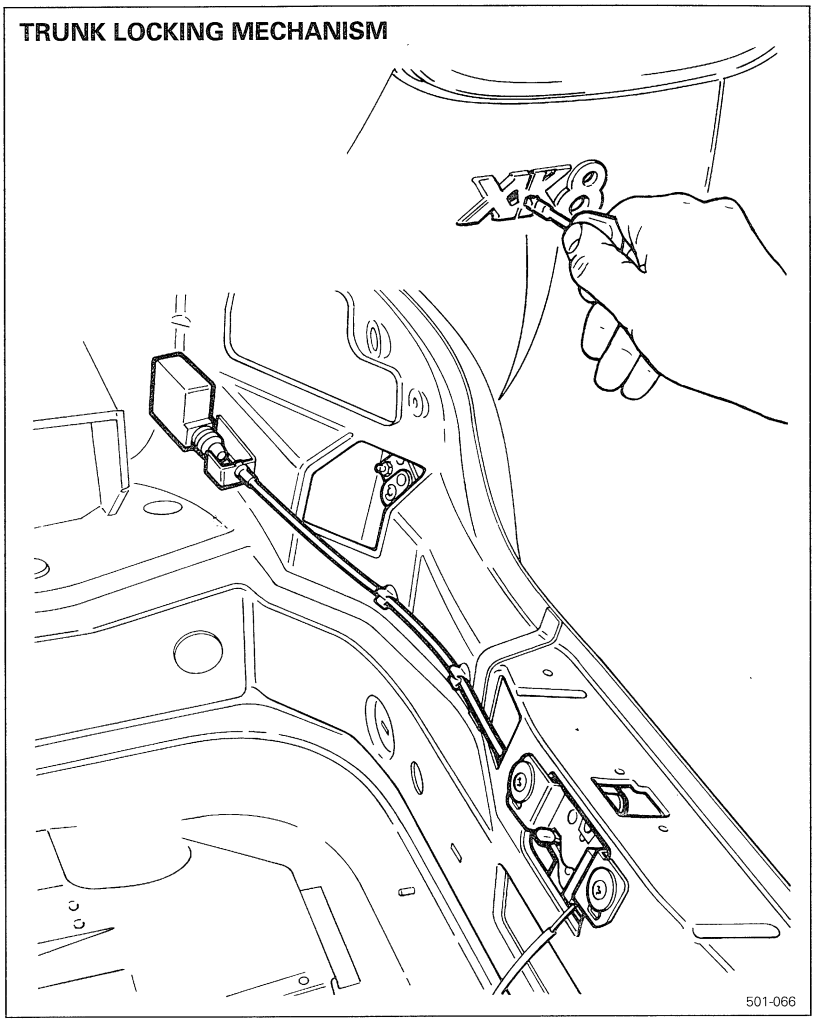
501-183

Trunk

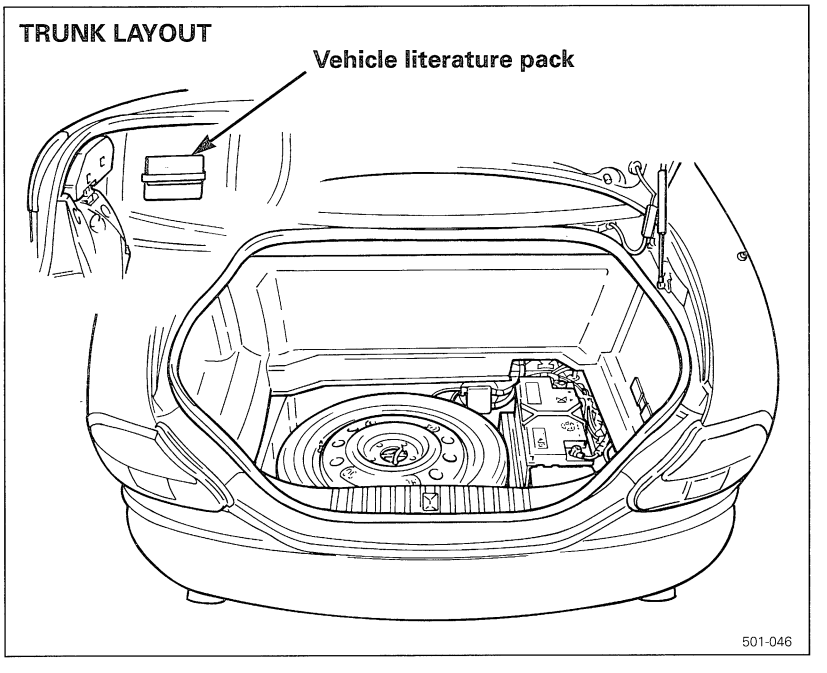
The trunk lid is a one piece outer panel with clinched inner to outer assembly providing minimum welding. Trunk opening from the car interior is by a switch, adjacent to the fuel filler release switch, mounted in the driver side fascia underscuttle. This switch is operational when the valet mode is inactive, security disarmed (vehicle is unlocked) and the vehicle is stationary. The latch is fixed to the BIW and is operated by cable from the locking mechanism mounted in the trunk right-hand side.

An emergency lock, key operated, is provided for access to the trunk. Non-locking gas struts support the open trunk lid. Single color moulded carpets are fitted to the trunk.

TRUNK LOCKING MECHANISM



TRUNK LAYOUT

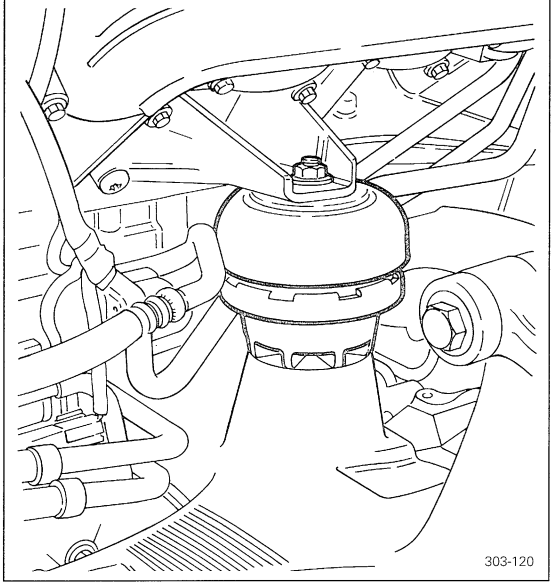


Note: This section contains information on those vehicle mounted components and systems that interface with the engine. For detailed information on the engine and the engine management system, refer to the Technical Guide: AJ-V8 Engine & 5HP24 Transmission Introduction.

Engine Mountings

An engine mounting on each side of the cylinder block secures the engine to the front suspension cross-beam. A plastic protective cover is installed over the upper part of each mounting.

ENGINE MOUNTINGS

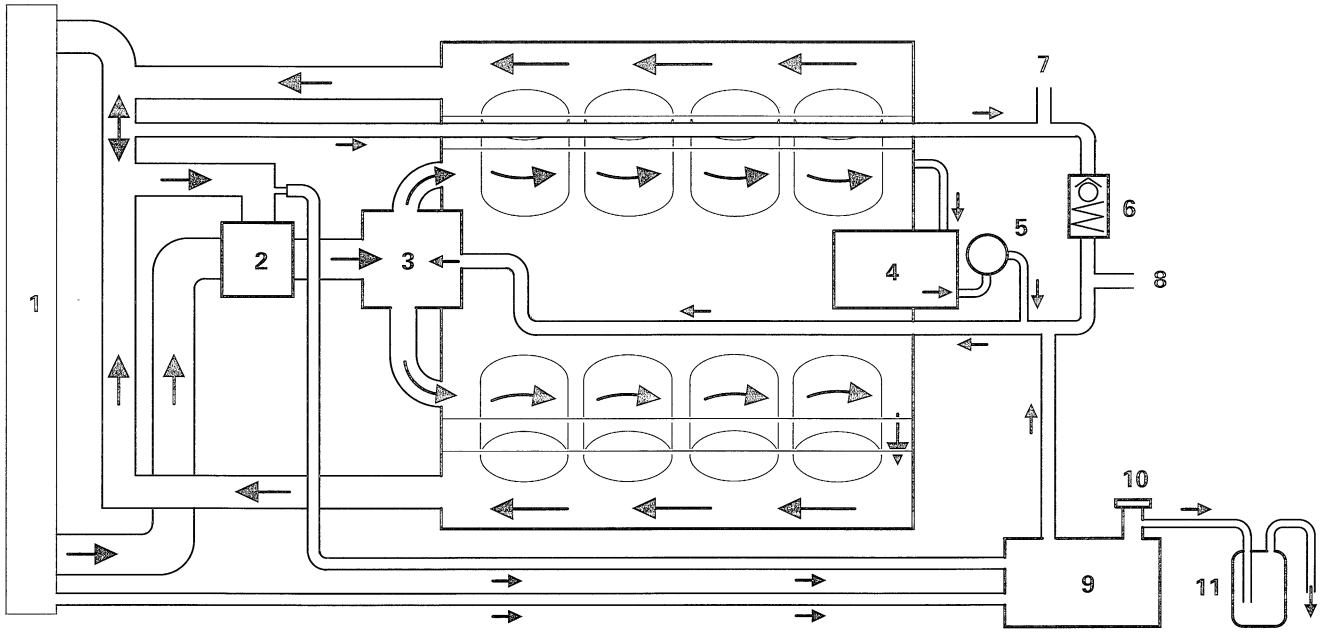


303-120

Engine Cooling

The cooling system is a low volume system that provides fast engine warm-up times.

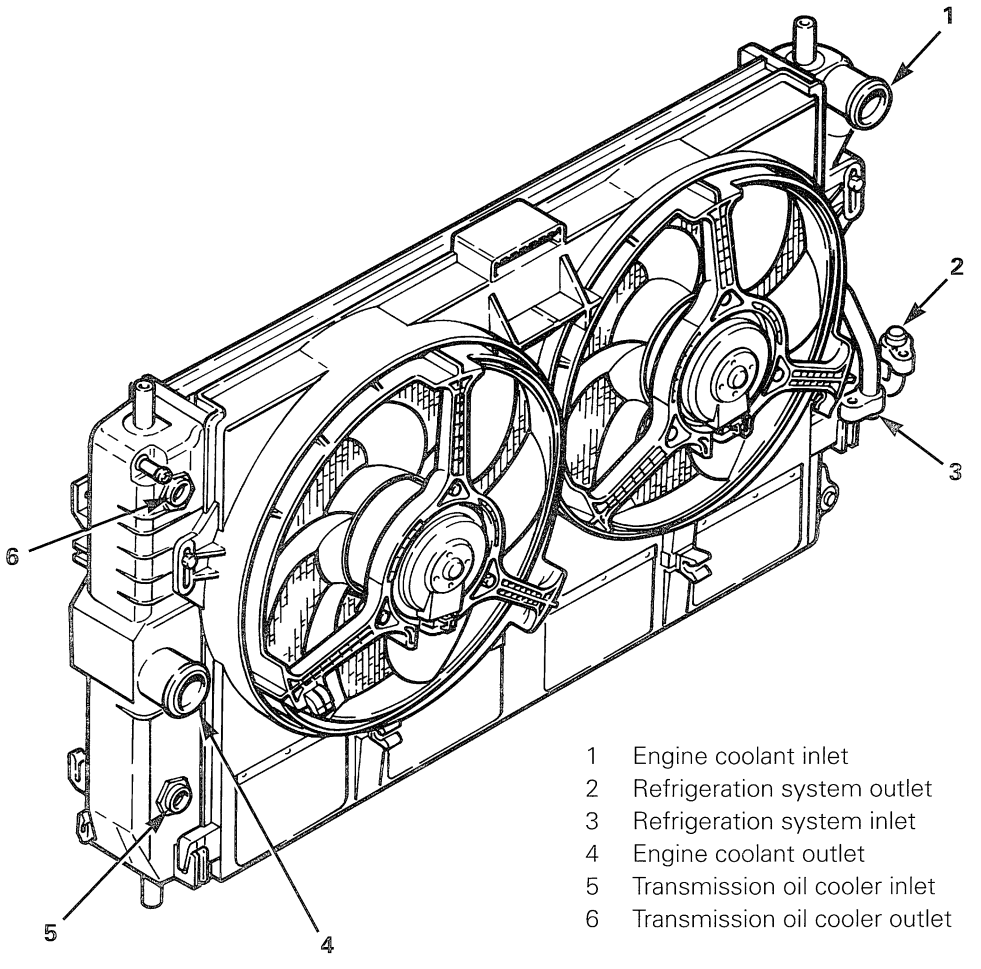
COOLING SYSTEM DIAGRAM



1. Radiator
2. Thermostat Housing
3. Coolant Pump
4. Electronic Throttle
5. EGR Valve
6. Non-return Valve
7. A/C Heater Supply
8. A/C Heater Return
9. Coolant Reservoir
10. Pressure Cap
11. Atmospheric Catchment Tank

303-025

COOLING PACK



1 Engine coolant inlet
2 Refrigeration system outlet
3 Refrigeration system inlet
4 Engine coolant outlet
5 Transmission oil cooler inlet
6 Transmission oil cooler outlet

303-189

Radiator

The fin and tube radiator combines high performance with low coolant volume and low air resistance. The outlet tank, on the left side of the radiator, incorporates a plate type transmission oil cooler. The bleed outlet vents any air in the radiator into the coolant reservoir.

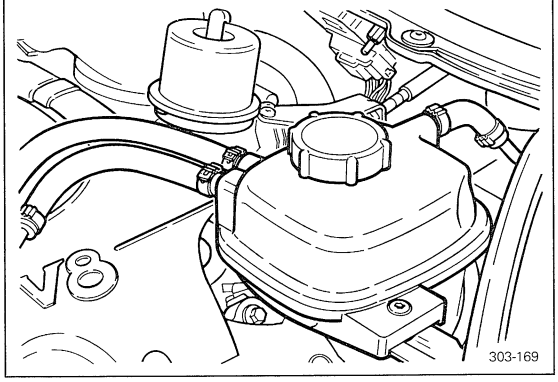
Cooling Fans

Two electric cooling fans are installed in a plastic cowl on the rear of the radiator, similar to the 96MY Sedan. The fans, one 305 mm (12.0 in) diameter and one 325 mm (12.8 in) diameter, are controlled by the ECM via the radiator cooling fans control module. When the fans come on they operate in either slow (series electrical supply) or fast (parallel electrical supply) mode.

Hoses

The ends of the cooling system hoses have orientation marks to ensure correct installation. The orientation mark should be at the top of the related spigot, unless the spigot also has an orientation mark, in which case the marks should align. Spring clamps secure the ends of the hoses on the spigots (there are no worm drive clamps). At the rear of the engine, the supply and return hoses of the A/C heater matrix incorporate quick release connectors.

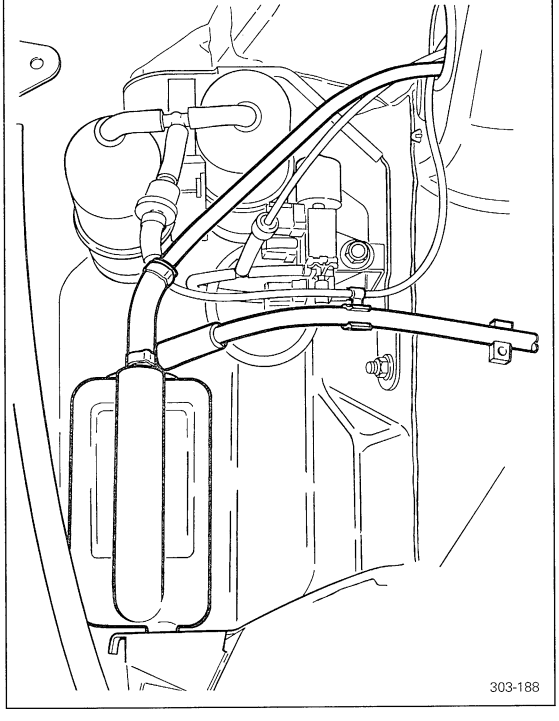
COOLANT RESERVOIR



Coolant Reservoir

The coolant reservoir is installed on the left front firewall extension in the engine compartment. It provides the system filling point and incorporates the coolant low level sensor. The coolant should be level with the bottom of the filler neck. The filler cap incorporates a 1 bar (14.5 psi) pressure relief valve which controls the release of pressure to the atmospheric catchment tank.

ATMOSPHERIC CATCHMENT TANK



Atmospheric Catchment Tank

The atmospheric catchment tank is installed behind the wheel arch liner at the rear of the right front wheel. It accommodates the expansion of coolant during normal operation. When the engine cools the coolant is drawn back into the coolant reservoir. Any air vented from the system passes through the catchment tank and vents to atmosphere. An overflow pipe runs from the catchment tank to expel hot coolant on to the ground.

Air Intake

Engine intake air is drawn from under the right front fender. It then passes through the air cleaner, the MAFS/air intake temperature sensor and the air intake pipe to the electronic throttle on the engine.

Air Cleaner

The air cleaner consists of a plastic base and cover, held together by five over-center clips, with an air cleaner element clamped between them.

The base is mounted in grommets on a bracket attached to the inner fender. A self-adhesive foam ring seals the joint between the intake duct on the base and the inner fender.

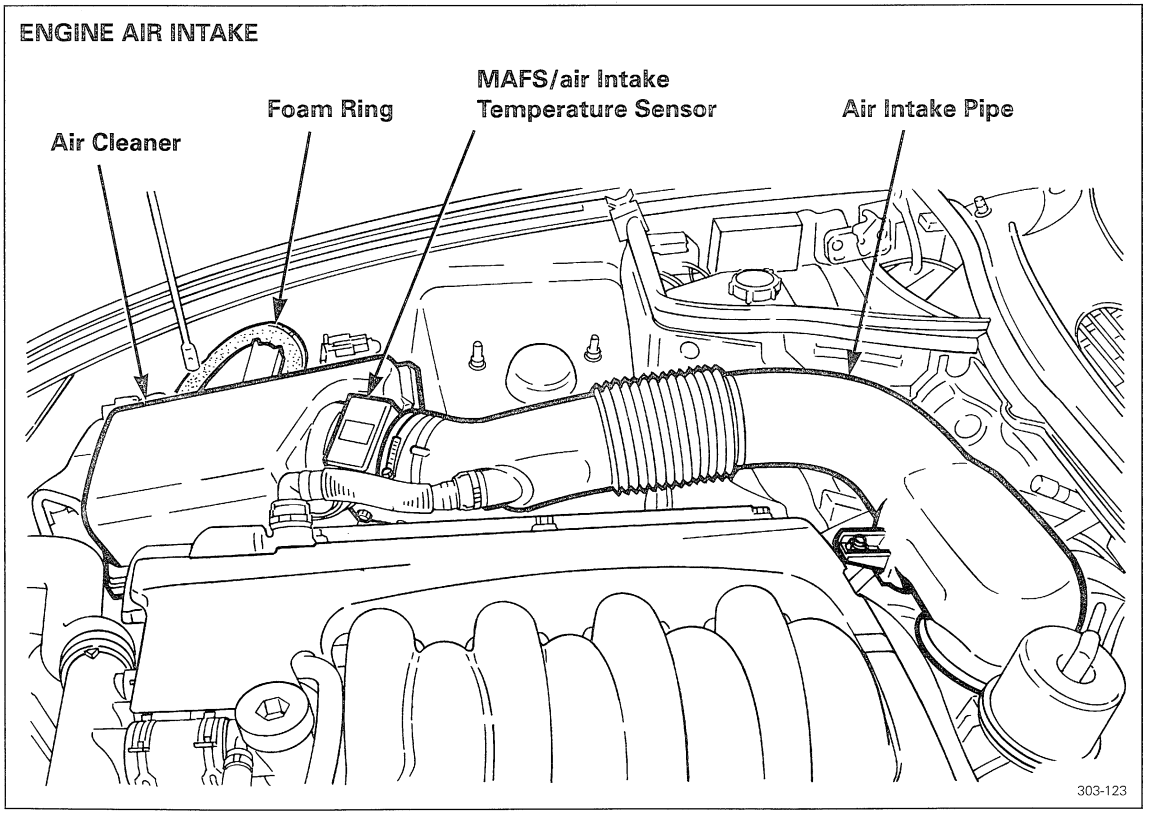
The MAFS/air intake temperature sensor, interfaced by a rubber seal, connects to the outlet port of the cover.

Air Intake Pipe

A worm drive clamp secures the plastic air intake pipe to the MAFS/air intake temperature sensor. A rubber ring on the sensor seals the joint.

Two screws secure the air intake pipe to brackets on the electronic throttle. A rubber gasket, located on the pipe, seals the joint.

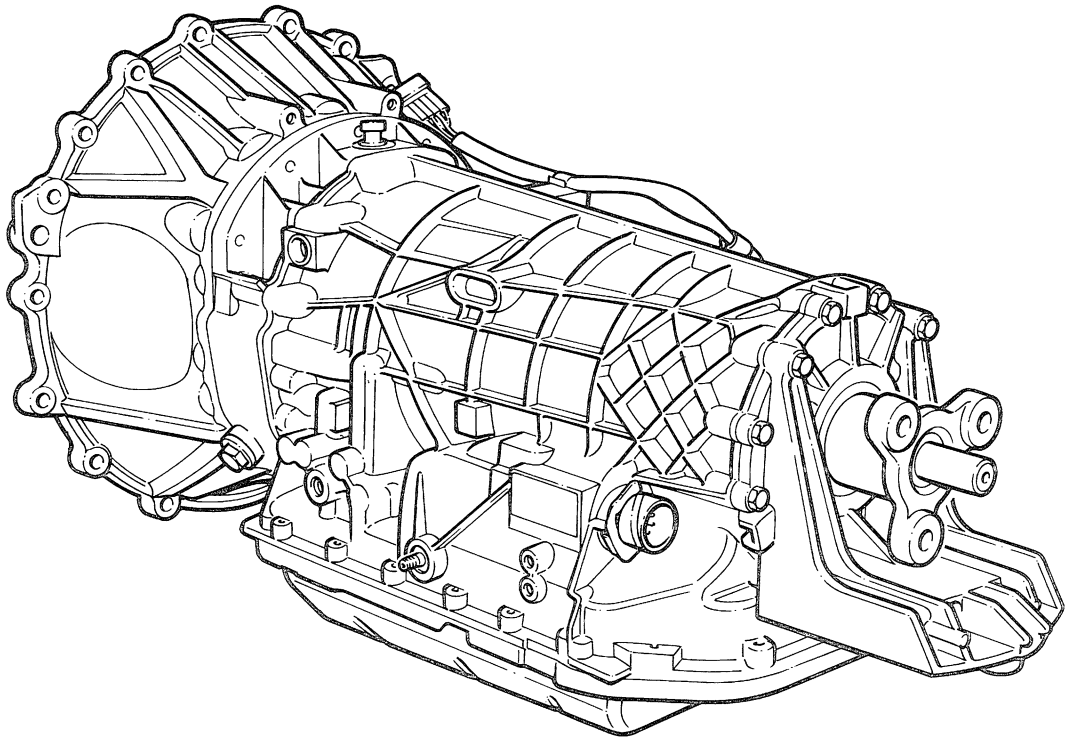
ENGINE AIR INTAKE



Introduction

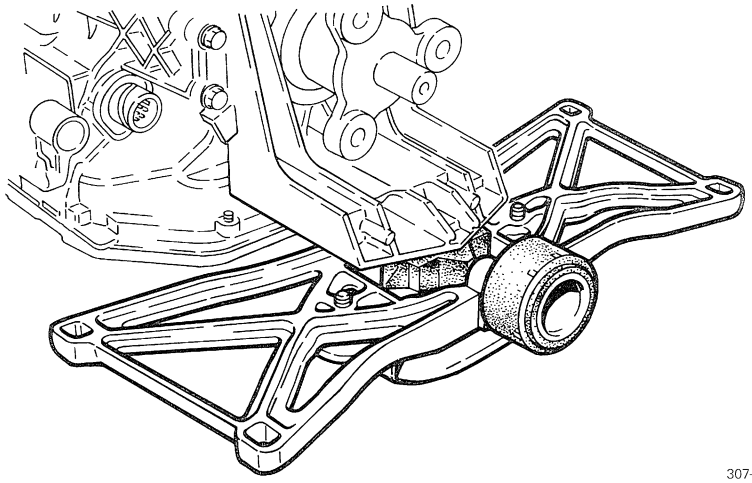
The ZF 5HP24 automatic transmission system fitted to the XK8 sports car features five forward gears and one reverse gear and a filled-for-life oil system. A more detailed description of the transmission is included in the AJ26 Engine and Transmission Technical Guide which compliments this guide.

ZF 5HP24 TRANSMISSION UNIT



307-007

REAR MOUNTING



307-011

Rear Mounting

The rear mounting is an aluminum casting with four point mounting to the body. A bonded rubber mount and bolt secures the transmission rear extension housing to the mounting casting.

Gearshift Selector

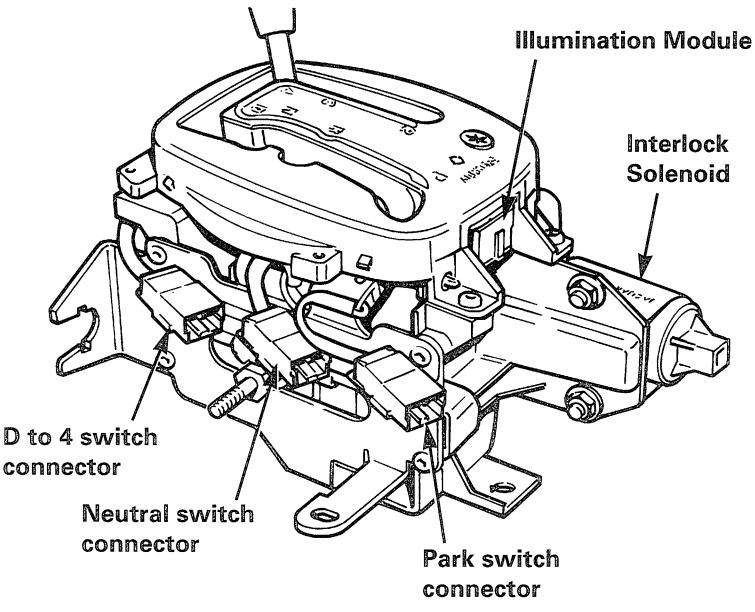
The gear selector lever, has seven gearshift positions, P, R, N, D, 4, 3, and 2, and a mode switch for normal or sport driving. This passes driver requests for gear selection to the TCM, via a rotary switch. The rotary switch is mounted on the transmission casing. The gear selector unit includes a read-only electronic module which gives a red illumination, on the selector surround, of the gear selected. The module has a CAN connection to/from the Instrument Cluster for dimming of the gear surround illumination and for operation of the security indicator light.

Other connectors on the gear selector are, gear shift interlock, park switch, neutral switch and D to 4 switch. The D to 4 switch is a new feature and is necessary because the selector cable does not move the rotary switch when selecting from D to 4th gear. The switch senses the gear selector movement and signals the TCM. An output signal is sent to the BPM to prevent the driver from removing the key from the ignition switch unless the gear selector is in the Park position.

The kickdown switch is floor mounted, under the accelerator pedal.

The mode switch is mounted on the rear of the gear selector unit and is illuminated when sport is selected by the driver.

GEARSHIFT SELECTOR



307-010

Transmission Oil Cooling

Cooling of the transmission oil is achieved by pumping the oil to and from the transmission casing to the oil cooler. The cooler is a plate-type design made from aluminum and is located in the car radiator outlet tank.

Technical Data

Road speed/engine speed in lock-up

5th Gear	51 kph (31.9 mph) /1000 RPM
4th Gear	41 kph (25.6 mph) /1000 RPM
3rd Gear	27.2 kph (17.0 mph) /1000 RPM

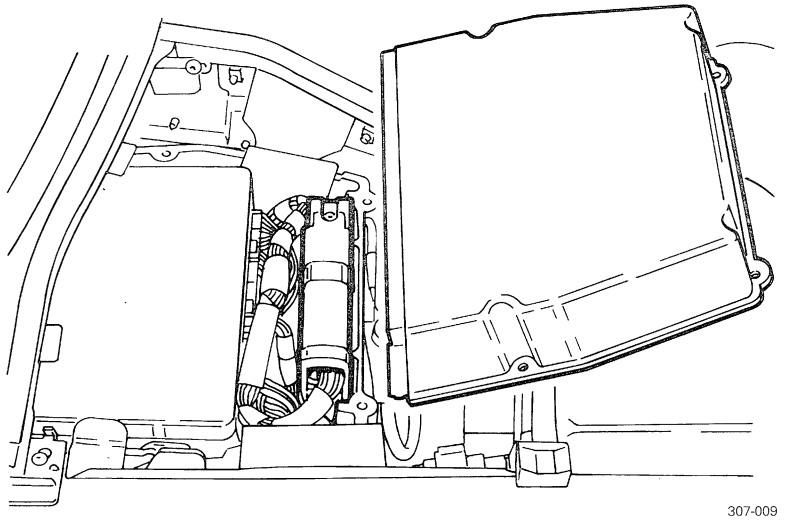
with Pirelli ZR17 tyres and 3.06 axle ratio.

Transmission Management

Gearshift management is achieved using a TCM, an integral part of the vehicle CAN multiplex network. The TCM is located in the forward bulkhead extension, along with the ECM. Access to the modules is gained through a screwed lid. The vehicle harness connector for the TCM is an 88-way latching connector. The transmission management system uses both analogue and digital signals which are processed by the TCM to and from the CAN multiplex system and from hard wired devices. The CAN system is a high speed serial interface to allow the interchange of sensor and real time digital data between four electronic modules; TCM, ECM, ABS/TCCM and the Instrument Cluster.

Further details of transmission management are incorporated in the AJ-V8/5HP24 Engine/Transmission Technical Guide.

TCM LOCATION



307-009

Driveshaft

The driveshaft is constructed in tubular aluminum with a slip joint at the transmission end.The tubular steel splined yokeshaft engages with the aluminum muff in the main tube to allow for longitudinal adjustment when fitting and provide for dynamic axial movement in service. A nylon coating covers the splines which helps to reduce friction and wear. Drive from the transmission output shaft is through a flexible coupling and to the final drive via a universal joint. The driveshaft must be fitted at the final drive end first to avoid damage to the flexible coupling centering bush and transmission spigot. No alignment is necessary due to its one-piece construction. Special tooling is required for torque tightening the transmission and final drive joint fasteners.

The weight of the driveshaft is 6.93 kg (15.28 lb).

Final Drive

A new final drive unit designated 14HU is fitted to the XK8 and is externally similar to the current 95MY sedan unit. The internal design features a stiffened pinion for improved refinement and a new main gearset with reduced offset, increased contact ratio and reduced sliding for greater efficiency. This unit is oil filled-for-life and does not have a drain plug fitted. The only serviceable components are the output bearing and seal and the pinion oil seal. The pinion is on the center line of the vehicle which improves the driveline alignment. The pinion oil seal is a cassette unit. Dedicated tools are required to remove the cassette unit.

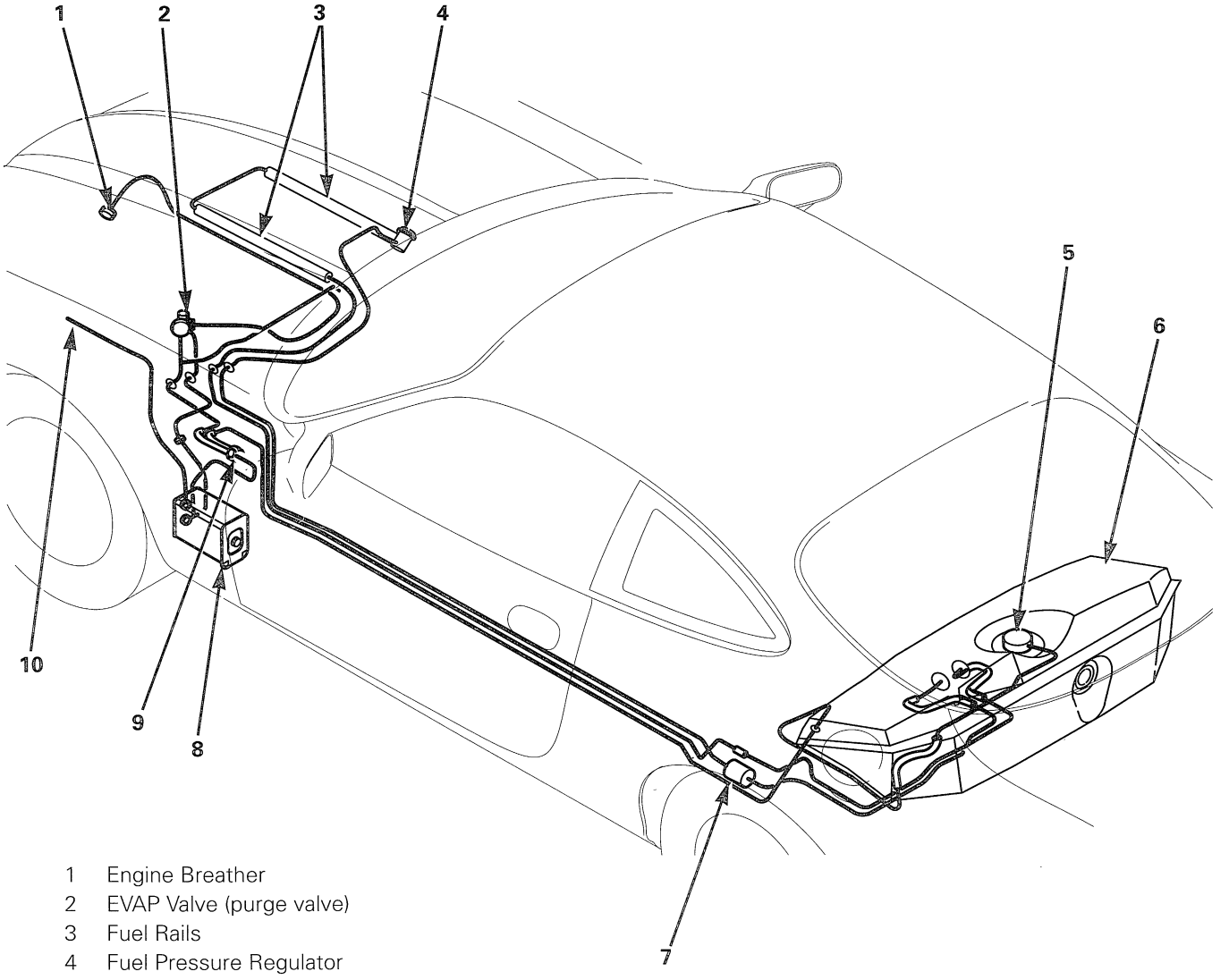
The weight of the final drive unit is 46 kg (101 lbs).

Oil capacity is 1.76 litres (0.46 US galls).

Introduction

The fuel system layout continues Jaguar's current practice of a fuel tank in the trunk, over the rear suspension, with fuel lines on the left underside of the vehicle connecting the tank to the engine fuel system.

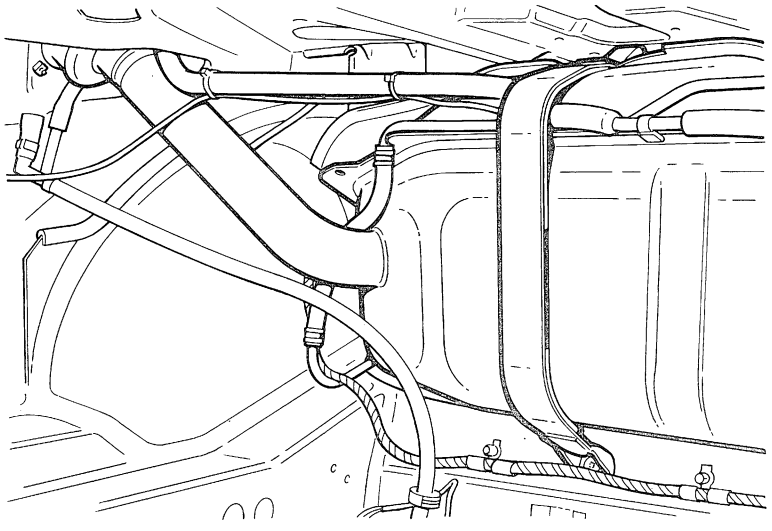
FUEL SYSTEM



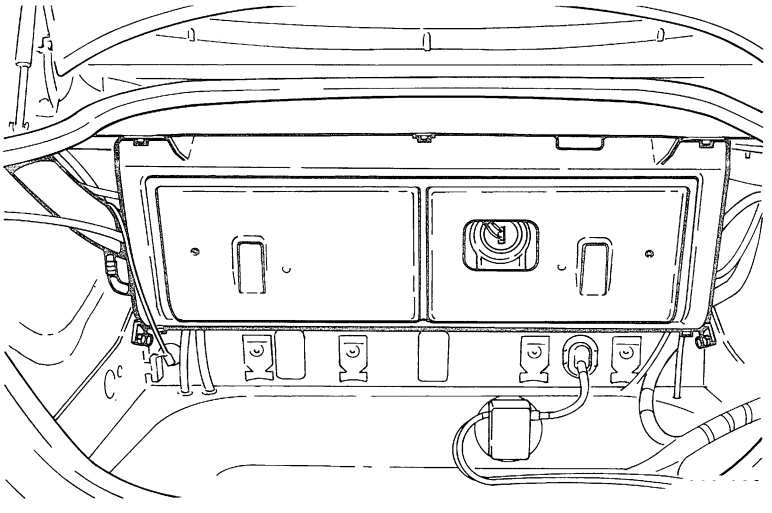
1 Engine Breather
2 EVAP Valve (purge valve)
3 Fuel Rails
4 Fuel Pressure Regulator
5 Evaporative Loss Flange
6 Fuel Tank
7 Fuel Filter
8 Carbon Canister
9 Fuel Tank Pressure Control Valve
10 To Atmosphere

303-303

FUEL TANK



Coupe



Convertible

501-170/206

Fuel Tank

The steel fuel tank is a new design common to both the coupe and convertible. Total volume of the tank is 90 litres (23.8 US gallons). Maximum fuel capacity is 75.5 litres (20.0 US gallons), of which 75 litres (19.8 US gallons) can be used. The low level warning on the major instrument cluster comes on if the contents decrease to 10 litres (2.6 US gallons) minimum of useable fuel.

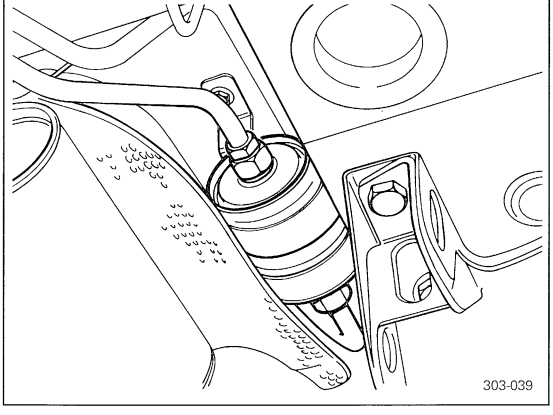
The fuel pump and evaporative loss flange are the same as those used in the 96MY Sedan range. The fuel level sensor is new, but similar to previous designs.

The front of the fuel tank locates on two lugs on the body. On the coupe, two metal straps secure the rear of the tank. On the convertible, a closing panel secures the rear of the tank.

Fuel Lines

The fuel lines consist of metal center sections with flexible P-CAP hoses at each end. Quick release connectors attach the fuel lines to the engine fuel rails, fuel tank and various vapour lines.

FUEL FILTER



303-039

Fuel Filter

The fuel filter is installed below the left rear seat pan. Except for the attachment bracket, it is the same as that installed on the 96MY Sedan.

EVAP System

The EVAP system is similar to previous single canister systems. The carbon canister and tank pressure control valve are the same as those installed on the 96MY Sedan. The EVAP valve is new.

Carbon Canister

The carbon canister is attached to a bracket behind the wheel arch liner at the rear of the left front wheel.

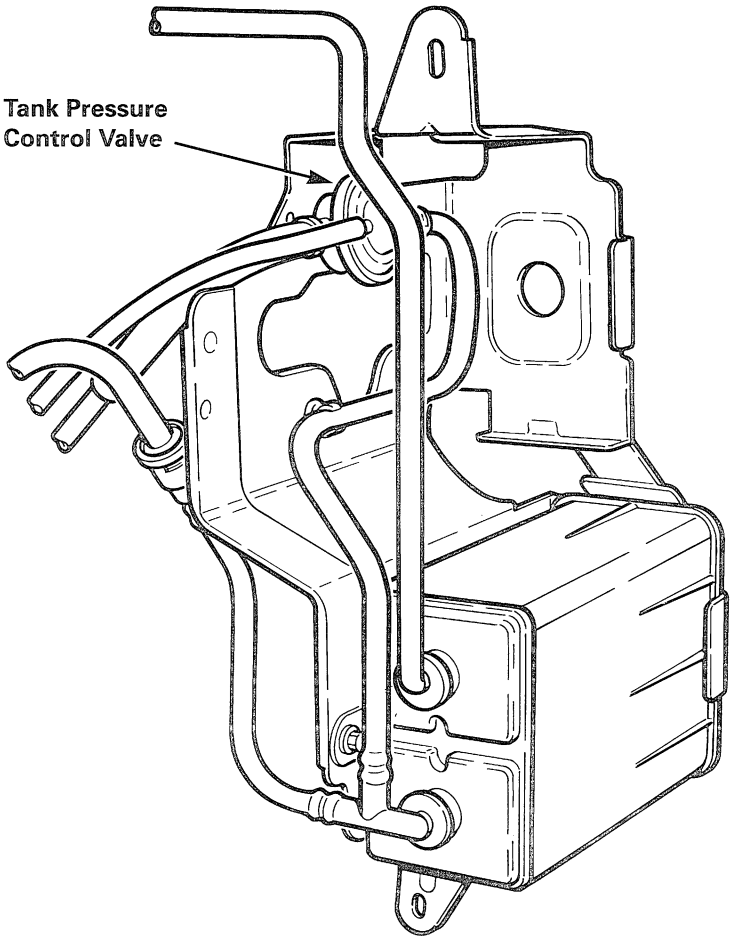
Tank Pressure Control Valve

The tank pressure control valve is attached to the carbon canister bracket. The vacuum signal for the valve is taken from the left side of the engine's induction elbow.

EVAP Valve

The EVAP valve is installed in the engine compartment, on the left forward firewall extension. This valve is closed with the engine off and modulates with the engine running.

CARBON CANISTER ASSEMBLY



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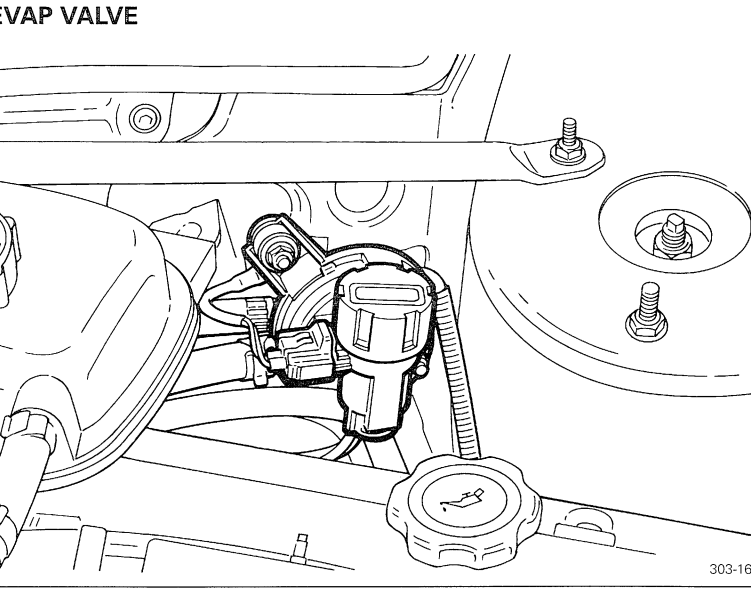
EVAP VALVE



303-168

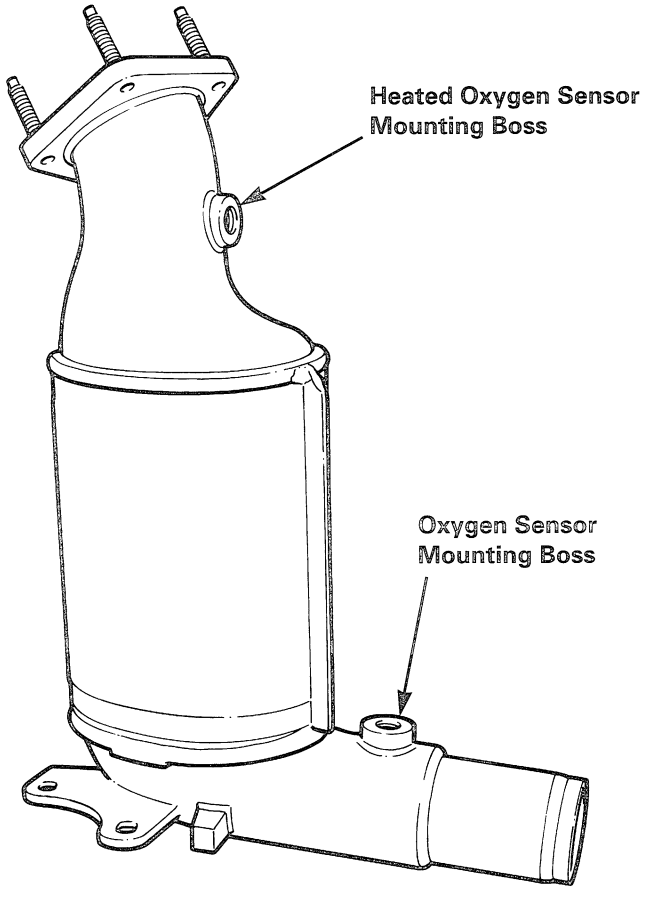
Introduction

The XK8 sports car has an all new, five-muffler, exhaust system fitted. None of the components are carry over from the XJS or XJ sedan ranges. The exhaust arrangement provides a low back-pressure gas flow system which enhances engine performance.

Downpipe assembly

Each engine bank has an exhaust manifold to which is attached a downpipe assembly. For markets which have unleaded fuel, each downpipe has catalytic converter elements. For markets with only leaded fuel, the downpipe elements contain the catalyst components to maintain the exhaust pressure system but they do not have the catalyst coating.
Four threaded studs fitted in the downpipe top mounting flange locate and secure the downpipe to the exhaust manifold. Joint to joint sealing is with a gasket. A heated oxygen sensor is fitted to the upper threaded location of each downpipe which samples the gas prior to the catalytic converter. The lower end of the downpipe is secured by two nuts and bolts to a bracket which is fastened to the engine.
An extra threaded location is provided at the lower end of the downpipe, downstream of the catalytic converter, for the fitting of an oxygen sensor (not heated).
The front exhaust pipes are slip joints to the downpipes and indicator rings on the downpipes provide minimum/maximum and nominal engagement location marks.

DOWNPIPE

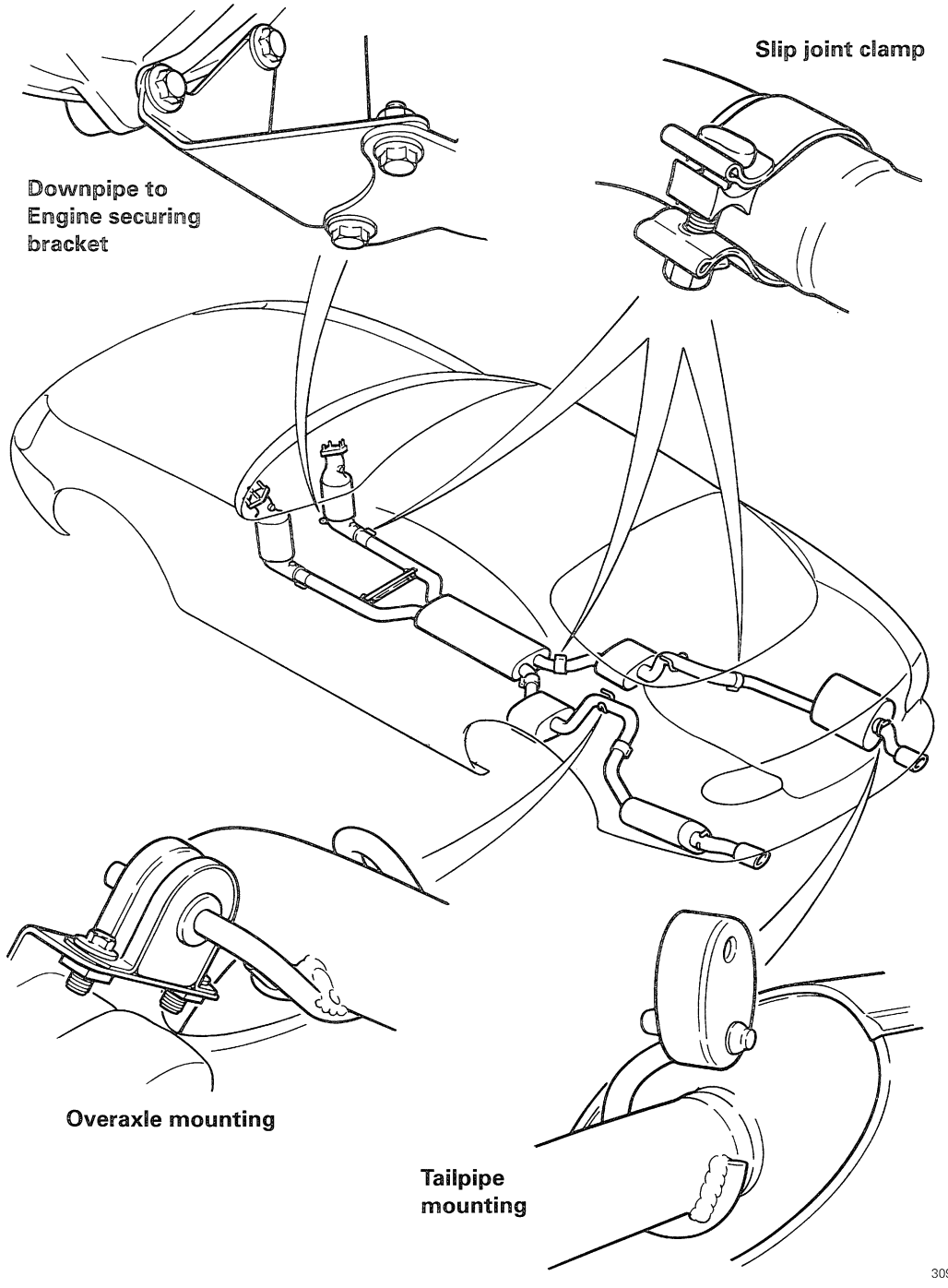


Exhaust System Layout

Both front exhaust pipes terminate in a common, centrally positioned, front underfloor muffler. The pipes and muffler are one combined unit, the pipes being welded to the muffler. The front pipes are attached to each other by a bracket welded to each of the pipes and secured together with a strap and two nuts and bolts. The exhaust gases divert on leaving the front underfloor muffler and pass into two intermediate mufflers, through overaxle pipes, into twin rear mufflers and then to the atmosphere. Each intermediate muffler and overaxle pipe are a combined unit and are handed left and right side.
All joints are slip joints and have indicator rings providing minimum/maximum and nominal engagement location marks. No gas sealants are needed for any joint. Attachment points for each of the intermediate mufflers and overaxle pipes are made at the overaxle point by a pin welded to each pipe which locates into a bush in a D-shaped, mounting rubber. The two rubbers being bonded into cradles which are bolted to the rear suspension cross member. Rear attachment for the tailpipe and muffler is an arrow head pin welded to the tailpipe, at the rear of each muffler,

held in a rubber suspension ring from a body attachment point. Each rear muffler tailpipe has an integral tailpipe finisher and are handed left and right side. All mufflers are the packed absorbtion type. Total system weight is approximately 40 kg (88 lbs).

EXHAUST SYSTEM LAYOUT



Front Suspension

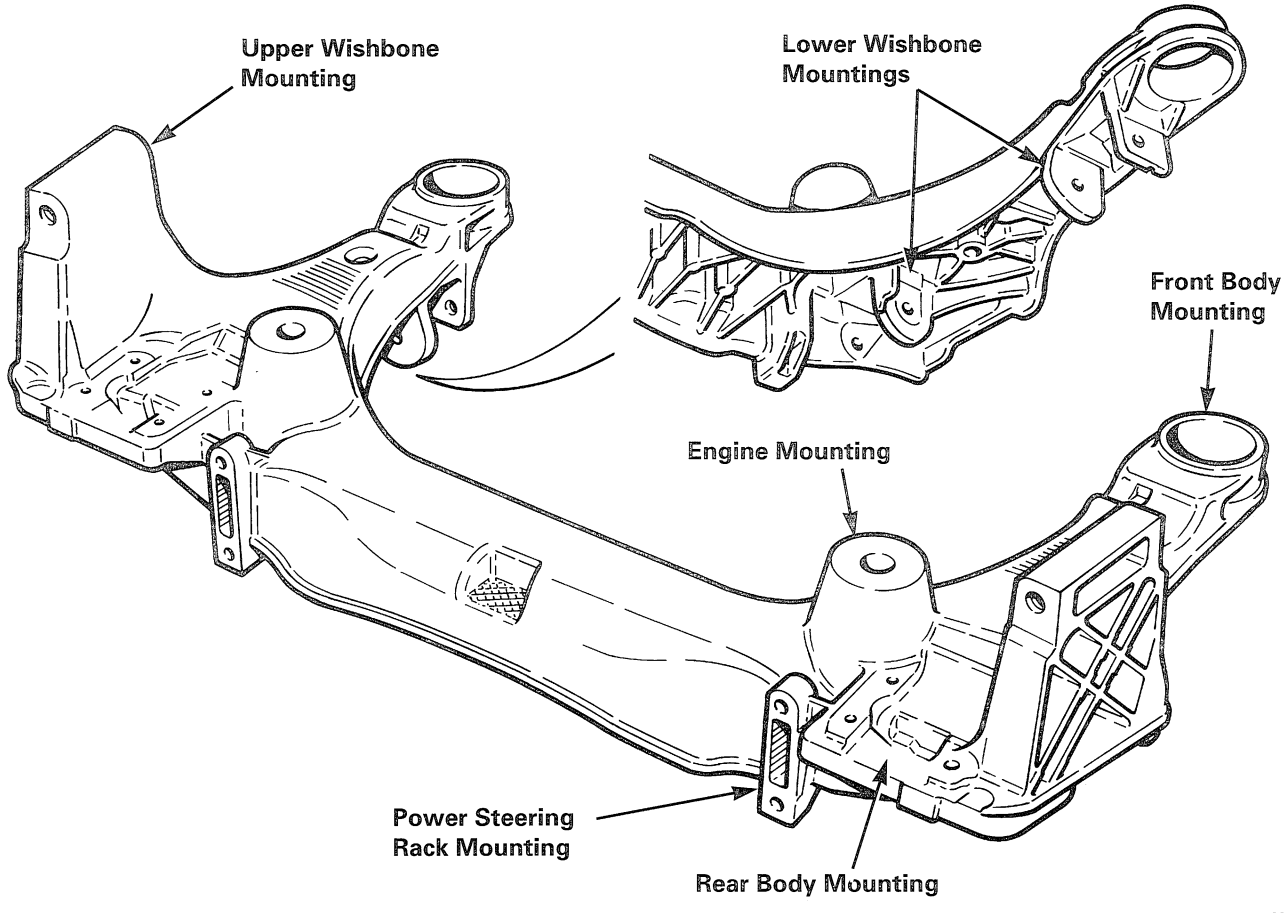
Front Crossbeam

The XK8 has a new lightweight, cast aluminum, front suspension crossbeam. It is bolted at four points to the body longitudinal members through bonded rubber to metal bushings.

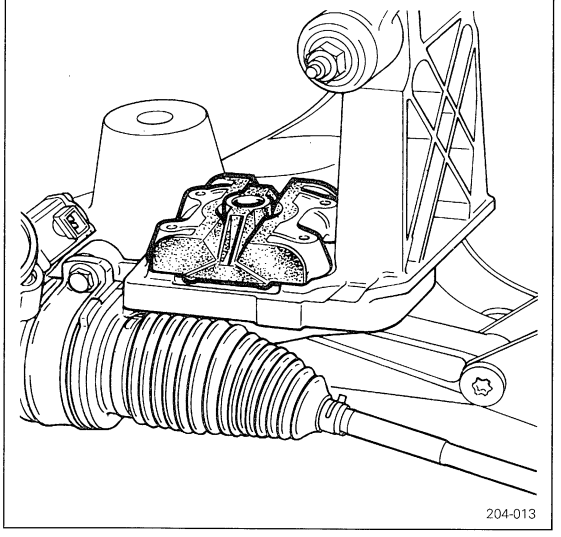
CAUTION: **Do not use the aluminum crossbeam as a jacking point. Damage can occur to either the crossbeam, brake pipes or the steering rack.**
The steel lower crossbeam beneath the radiator package or the normal car jacking points must be used for front end jacking.

The crossbeam carries the engine mounting points, upper and lower wishbone mounting points, the steel wishbone tie bar, stabilizer bar and the power steering rack.

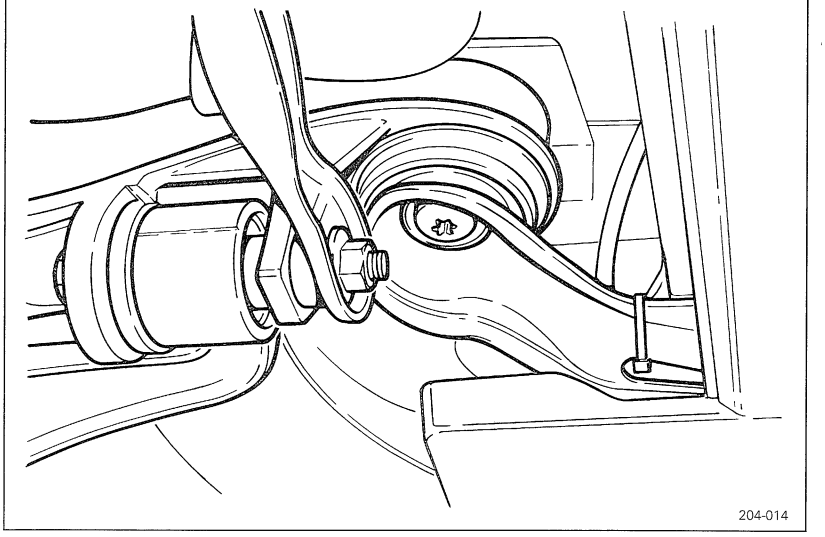
FRONT CROSSBEAM



FRONT CROSSBEAM REAR MOUNTING



FRONT CROSSBEAM FRONT MOUNTING



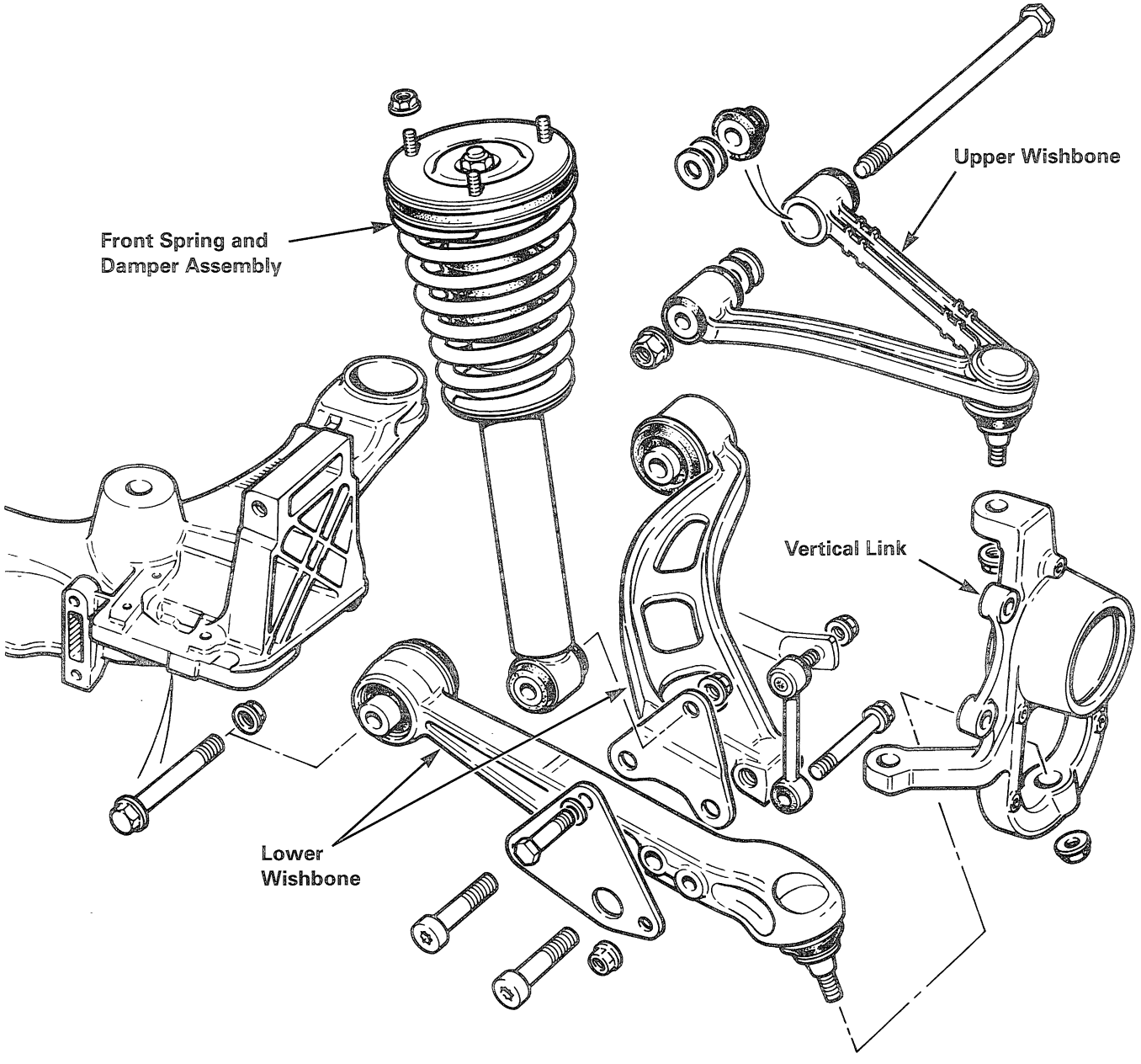
Wishbone Assemblies

Both upper and lower wishbone assemblies are attached to the crossbeam by fulcrum bolts. The upper wishbone is a single-piece steel forging with slipflex bushings, two bushings to each arm, to suit the single fulcrum bolt. The wide base lower wishbone comprises two steel forged arms, bolted together. Each piece is bushed with metal-to-rubber bonded bushings to suit the two mounting point fulcrum bolts. The front lower wishbone is tapped to accept the two bolts which secure the two wishbone arms together. Additionally, the two lower bolts are used to secure the damper mounting brackets to the wishbone. A stabilizer bar is clamped in two places by rubber bushings and brackets to the beam. Location of the stabilizer bar is by a collar on the bar which mates with a groove in one of the rubber mounting bushings. Both bushings are grooved. The outer ends of the stabilizer bar are bolted to drop links which are bolted to the rear arms of the lower wishbones. These bolts are also used to secure the damper mounting brackets outboard side.

Vertical Link

The vertical link, which carries the front wheel bearing, hub flange, hub nut/rotor and wheel speed sensor, is attached to the wishbones by a top and a bottom ball joint. The ball joints are press fit to the wishbones. The vertical link also has the steering tie rod end ball joint attachment and brake calliper and disc shield attachments.

FRONT SUSPENSION COMPONENTS



Hub Nut/Wheel Speed Rotor

The front wheel speed rotor is part of the wheel hub nut. A special socket spanner, JD.228 and hub holding tool, JD.227 are required to torque tighten the front hub nuts. The nut locking device consists of a spring plate with a pin at either end which is placed inside the hub and each pin engages with slots in the nut. The socket spanner is designed to allow the locking pins to engage the nut without removing the socket spanner.

The rear wheel speed rotor is as the 95MY sedan.

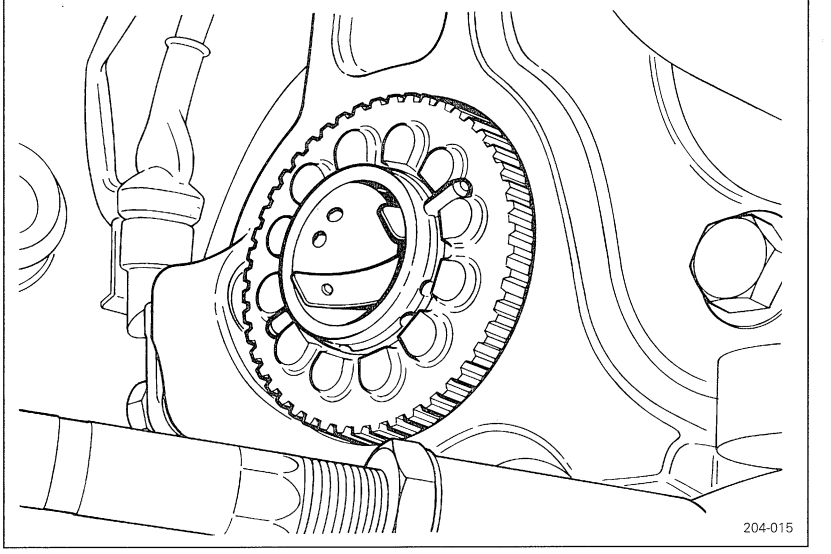
Wheel Speed

Each of the two front vertical links and each of the rear hub carriers has a sensor which, together with the rotor, provides hard wired, wheel speed information to the CAN, via the ABSCM.

Front Dampers

The top of each front independent suspension co-axial spring and damper assembly is fitted to the car body. The spring is compressed between the top mounting flange and a spring pan on the damper body. Damper attachment at the lower end is between two plates located on the rear lower wishbone.

FRONT HUB NUT LOCKING DEVICE



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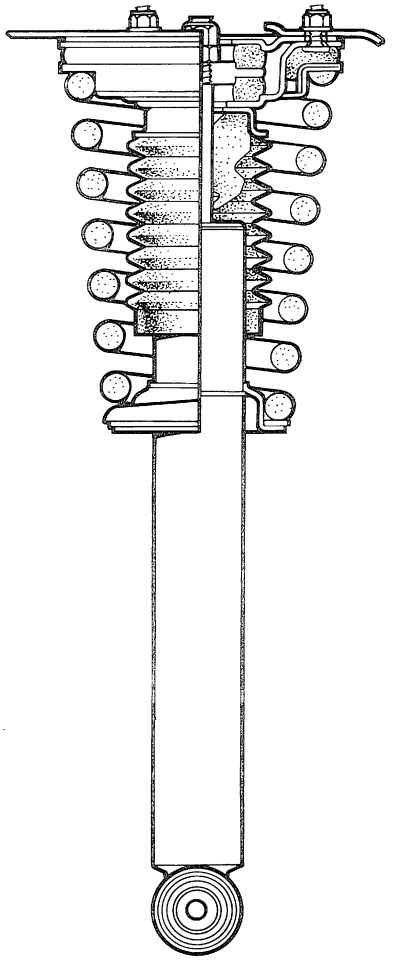
FRONT DAMPER

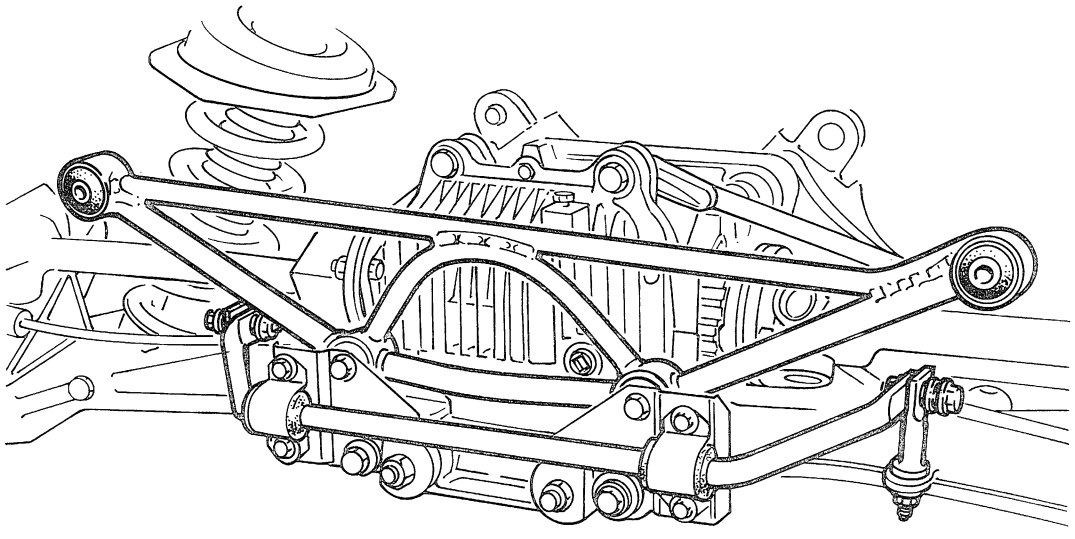


204-010

Rear Suspension

The rear suspension is similar to the 95MY sedan with new rated springs and dampers. In place of the two single differential struts it has a monostrut. Wheel bearings are as the 95 MY sedan. The new 14 HU final drive is driven through a pinion which is on the center line of the vehicle, improving the driveline alignment. The rear wishbone is cast with pick-up points for the stabilizer bar. All suspension dampers, springs and stabilizer bars are matched to the sport suspension.

REAR SUSPENSION MONOSTRUT AND STABILIZER BAR



204-007

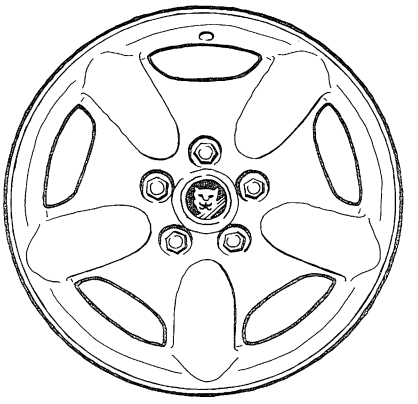
Wheels and Tires

	Wheel Size	Tire Size(s)
Sport Wheels	8 x 17 inch (8J x 17)	Pirelli P Zero 245/50 ZR 17 99Y Asimmetrico

Sport Wheels
The Sport road wheels are painted cast alloy and are a standard fit for all vehicles. Chrome finished wheels are available as an option

Spare Wheel
A full size, 17 inch, alloy wheel, which matches the normal roadwheels, is standard fit as a spare wheel.

SPORT STYLE ROAD WHEEL



JLK 044

Tire Pressures:

Suspension	Maximum Comfort (Speeds up to 160 kph (100 mph))	Normal Pressures
Sport	Front 1,7 bar (26 psi) Rear 1,9 bar (28 psi)	2,2 bar (32 psi) 2,3 bar (34 psi)

Tires, other than those recommended by Jaguar, must be inflated to the following cold inflation pressure: front and rear - 3,0 bar (43 psi)

Brake Systems

The front wheel brake disks are 28mm x 305mm (1in x 12in) diameter, ventilated rotors with associated cooling ducts. The front brake calipers are as the 95MY sedan but with the hose port facing forwards. The front disk shields have been changed to suit the new disks and can be removed without disturbing the wheel hub and bearings.

The rear brake disks, 20mm x 305mm (0.75in x 12in) ventilated rotors, calipers and disk shields.

The brake booster and master cylinder are located in a forward bulkhead extension compartment within the engine compartment.

The brake pedal is housed in a plastic pedal box.

The brake switch is a carry over from the 95.25 MY XJS.

Brake Control Modulator

The BCM is located in the front left side of the engine compartment. The brake pipes are routed through the front fender and forward bulkhead extension. Normal brake function is pedal force applied by the driver, assisted by a brake vacuum booster. The BCM, fitted as standard to all vehicles, serves as an anti-lock braking device (ABS) and also a wheel spin prevention control device (when traction control is fitted). The BCM comprises an aluminum valve block, solenoid valves, an electrically driven pump, two low pressure accumulators and damping chambers. Each BCM has 6 ABS or 9 ABS plus TC integrated valve coils and integrated main and pump motor relays. The electronic control module is integrated with the valve block. The pump, motor, valve block and control module are supplied as a unit and are non-serviceable. In addition, the BCM with Traction Control has software for individual control of each of the road wheels. Brake software is new Teves Mk20I software with CAN interface. With the new software and CAN controlling the balancing of the front and rear brakes, the need for pressure conscious reduction valves (PCRV's) is removed, therefore PCRV's are not fitted to the XK8. The BCM incorporates CAN software to support traction policy and electrical architecture.

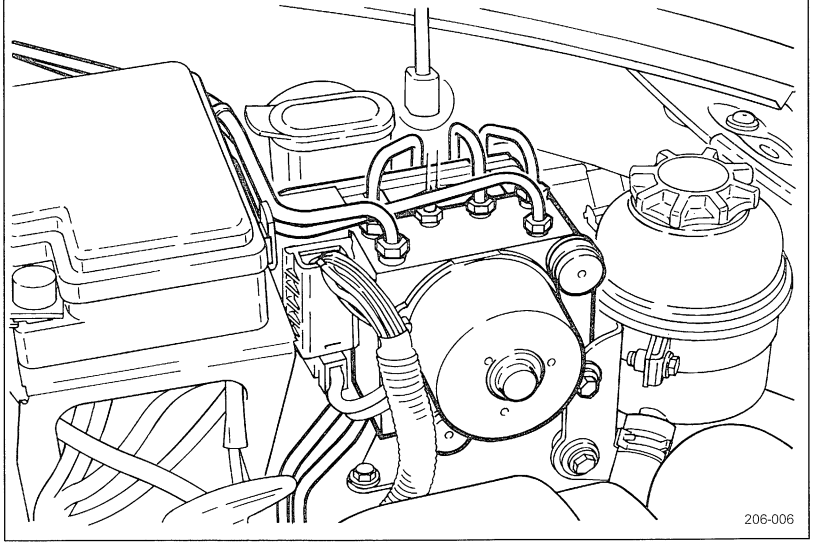
Each road wheel hub contains an inductive wheel speed sensor which provides road speed signals to the BCM. These signals are also fed over the CAN for vehicle use, such as vehicle speed displayed on the instrument cluster, for cruise control or for stability/traction control.

Should a locking tendency of any wheel during braking be sensed, the pump unit will be started and the inlet valves of the corresponding wheel/axle will be closed to stop further pressure increase.

If this does not stop excessive deceleration of the wheel, the pressure in the wheel cylinder will be decreased by opening the outlet valve to release pressure to the low pressure accumulator until the wheel/axle accelerates again. From the low pressure accumulator, brake fluid volume is pumped via the damping chamber to the master cylinder. The pressure to the brake system will then be increased in small steps to maintain maximum friction between the road and wheels. This is achieved by closing the outlet valve and opening the inlet valve to recharge the pressure leaving the master cylinder.

If, during acceleration, any one or more of the road wheels has a tendency to spin caused by excessive engine torque or loss of friction/traction, it is detected by the wheel speed sensor. Potential wheel spin is counteracted in two ways, either by Stability Control or by Traction Control.

BRAKE CONTROL MODULATOR



206-006

Stability Control

The Stability Control system utilises engine intervention to reduce the torque/power to the rear wheels to prevent the wheels spinning. Engine power is reduced in three ways; the throttle is moved towards the closed position, the fuel is cut-off at the injectors to the cylinders and the ignition is retarded. Because of the mechanical delays, the throttle response is slower to work than the fuel cut-off and ignition retard. In the event of a tendency for wheel slip, the BCM uses information from the CAN bus to calculate the torque which should be applied by the engine to prevent the slip. Torque reductions are then requested from the ECM via the CAN bus. The throttle is positioned to provide the target torque calculated to prevent slip. During the transient phase of torque reduction the ignition will be retarded and fuel cut off to the cylinders to reduce torque to the target value. Both the fuel cut-off and ignition retard will be restored to their previous settings when the throttle is set to its new position. The stability control switch is mounted in the center console and has an LED illuminated ASC OFF (anti-skid control off).

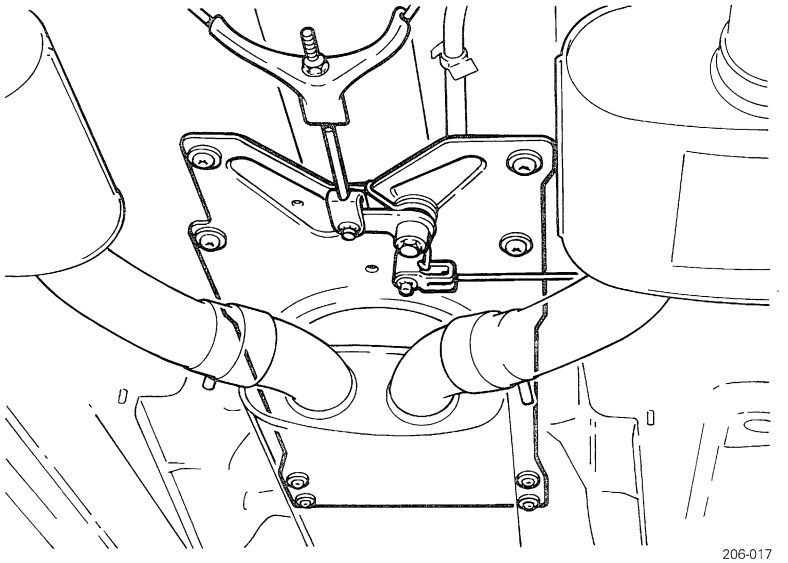
Traction Control

In addition to the engine torque reduction used with stability control, traction control uses individual wheel braking to control potential spinning of a wheel. To increase brake pressure, the cut-off solenoid valve will be closed and the pump will be started. It will suck brake fluid volume out of the reservoir via the non-actuated master cylinder, the non-actuated hydraulic cut-off valve and the additional pump inlet valve and pumps it via the solenoid inlet valve to the calliper. The traction control switch is mounted in the center console and has an LED illuminated TRAC OFF (traction off). The traction switch does not affect gear shifting except that a message from the BCM that traction is active will switch the TCM to select the traction program. Following the tractive active signal the TCM will inhibit downshifts/torque convertor lockup and select a single shift pattern tailored to meet the traction system requirements for upshifts.
When either ASC or TRAC are active a message is displayed on the message center and the amber warning light will flash.

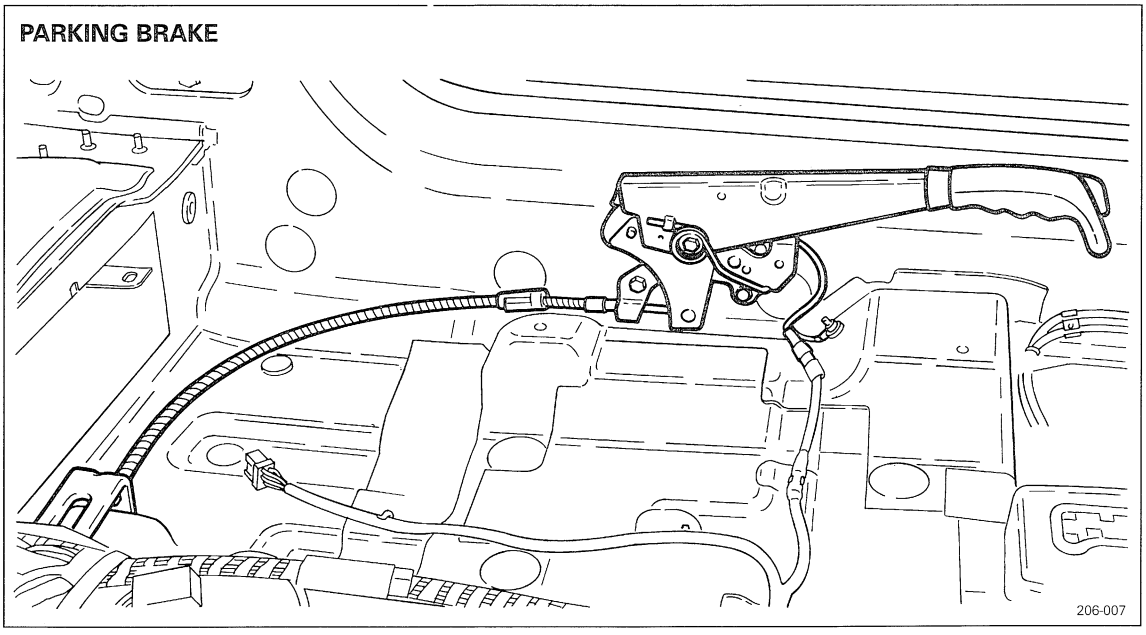
Parking Brake

The sill mounted parking brake is a new component. The parking brake switch is a carry over from the 95.25MY XJS. Rear axle configuration of the parking brake components is a carry over from the 95MY sedan with common mountings for both coupe and convertible.
The cable is routed from the handbrake, behind the drivers seat under the carpet and passes into the tunnel to the side abutment bracket. The handbrake cable terminates at a relay lever assembly mounted on the tunnel closing plate. This converts the sill mounted hand lever system to a 95MY sedan center pull system. The tunnel closing plate is not interchangeable between the coupe and the convertible because the convertible plate is longer. From the relay lever assembly the cable arrangement is as the 95MY sedan. Adjustment of the cable is from a central point in front of the rear axle, as the 95MY sedan.
If the vehicle is driven above 5 km/h (3.1 mph) with the parking brake on then a warning light and text message will appear on the message center. The message clears when the parking brake is disengaged or the speed drops below 3 km/hr (1.87 mph).

CONVERTIBLE TUNNEL CLOSING PLATE



PARKING BRAKE

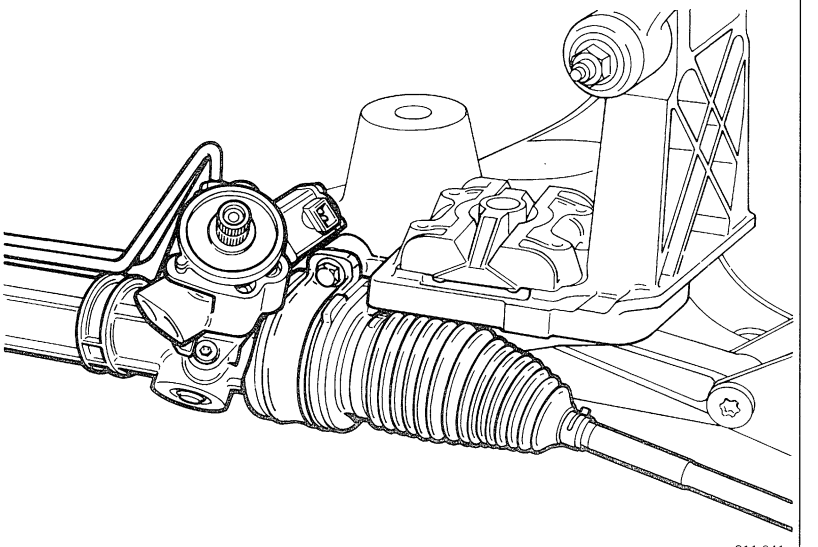


Power Assisted Steering System (PAS)

Steering Rack

The steering rack is a ZF Servotronic speed sensitive, variable ratio, rack and pinion, power assisted unit and is standard on all models. Service is limited to the transfer pipes, bellows, outer ball joint assemblies, transducer, centralising cap and their clips and fittings. The track rod assembly, including the inner ball joint, is not a serviceable item. Centralisation of the rack is made by a locating pin and the unit cover. The rack is mounted across the rear of the front suspension aluminum crossbeam by wrap-around 'U'-brackets and bushings. The handed and orientated bushings and 'U'-brackets are replaceable without removal of the rack. Incorporated in the rack is an integrated power cylinder, a rotary hydraulic valve and positive center feel torsion bar. The rotary control valve distributes and controls the degree of hydraulic pressure needed to support any given driving situation. This arrangement gives the driver a power assist which is speed sensitive allowing ease of parking combined with high speed feel.

STEERING RACK



211-041

PAS Pump

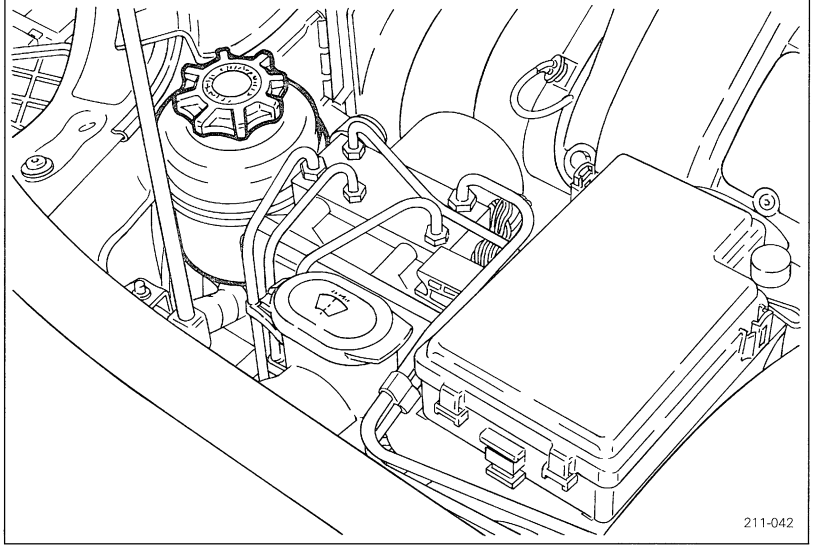
The power assist pump is a new Hobourn Automotive Series 500, belt driven by the engine and contains no serviceable parts.

PAS Reservoir

The 0.4 litre (0.42 US quart) fluid capacity oil reservoir is rubber mounted in the engine compartment to the rear of the left-hand headlamp. It has a screw cap with integral dipstick and incorporates a 10 micron paper filter. The filter is not a serviceable item.

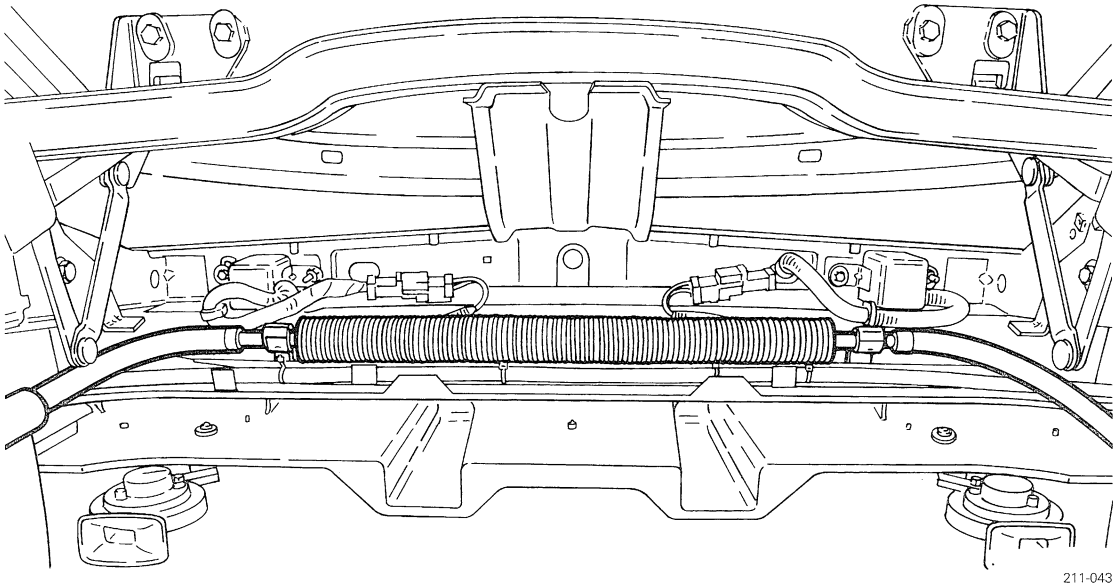
If any major PAS component is replaced then the reservoir and fluid must also be changed.

PAS RESERVOIR



211-042

PAS COOLER



PAS Oil Cooler and Hoses

An oil cooler is rubber mounted on the front bumper beam.

All hoses and the rotary valve have been designed to reduce system noise. Spring band hose clips are used on low pressure joints at the reservoir and reservoir to pump, and in-line self sealing quick fit connectors at all other joints. An in-line quick fit connector with double 'O'-ring seals is used for connecting the cooler and hose assembly to the return line pipe.

PAS Control Module

A PASCM, mounted in the fascia, right-hand side, receives speed signals from the Instrument Cluster and sends signals to the PAS rotary valve to provide speed feel control to the driver.

Steering Wheel

The steering wheel is a modified version of the 95MY sedan. It has the addition of switches mounted on the steering wheel. One set of switches are for control of the in-car entertainment system. A second set of switches are used for cruise control. The drivers airbag/SRS is fitted to the steering wheel and a Jaguar badge is located in the center face of the wheel.

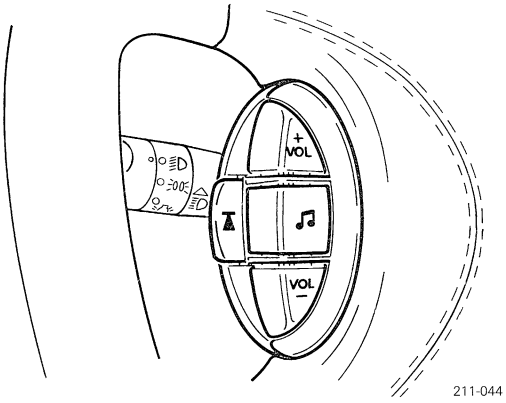
Upper Steering Column

The upper steering column is essentially a carry-over of the 95MY sedan with electric tilt/reach adjustment. With the electric operated column, when the key is removed from the ignition, if the column is selected to AUTO, the column will tilt away for entry/exit. The motors are fitted with feedback potentiometers for the memory feature. Main variations from the X300 are: adjustment range, connected directly to the lower steering column, no knee bolster bracket, new connector mounting brackets and reach adjust motor position (electric). With electrically operated columns, the adjustment switch is mounted on the left-hand side of the lower column cowl, adjacent to the dimmer switch.

Lower Steering Column

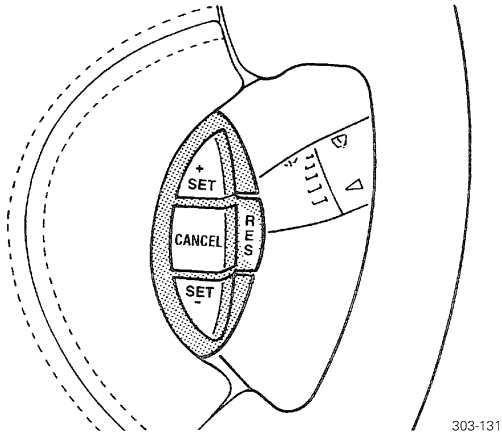
The lower steering column is a new design for the XK8 and is handed. There are no serviceable components and the gaiter is part of the assembly. It has a telescopic slider mechanism. No adjustment or setting of the column is required. Column yokes can be connected to the upper column and steering rack in any orientation on the splines. The column must be disconnected from the rack before removing the engine or dropping the front suspension beam. If the slider mechanism is separated, for any reason, it must not be re-assembled.

IN-CAR ENTERTAINMENT SWITCHES



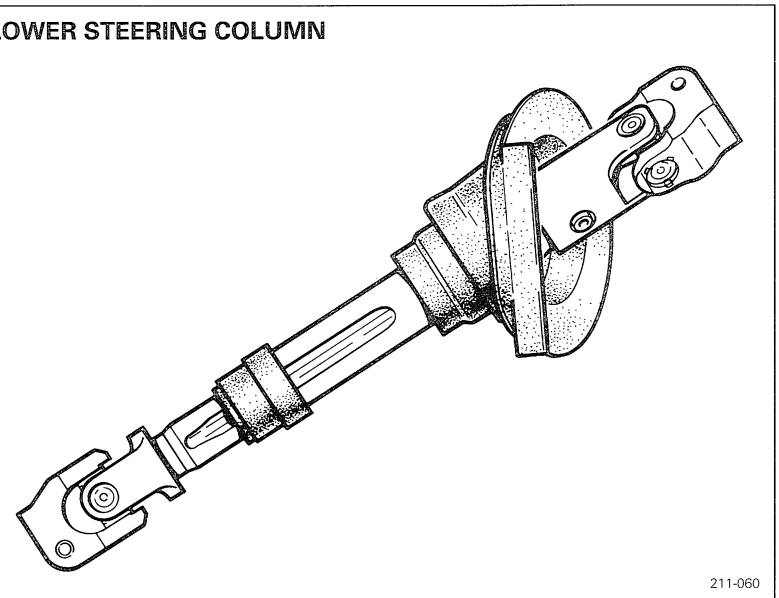
211-044

CRUISE CONTROL SWITCHES



303-131

LOWER STEERING COLUMN



211-060

Introduction

The climate control system offers a fully automatic, temperature controlled heating and air conditioning system to maintain optimum comfort. Driver management of the system is by means of a control panel allowing full automatic control of selected temperature within the range 17°C (62.6°F) to 31°C (88°F) or by manual override control of temperature, blower speeds and air distribution.

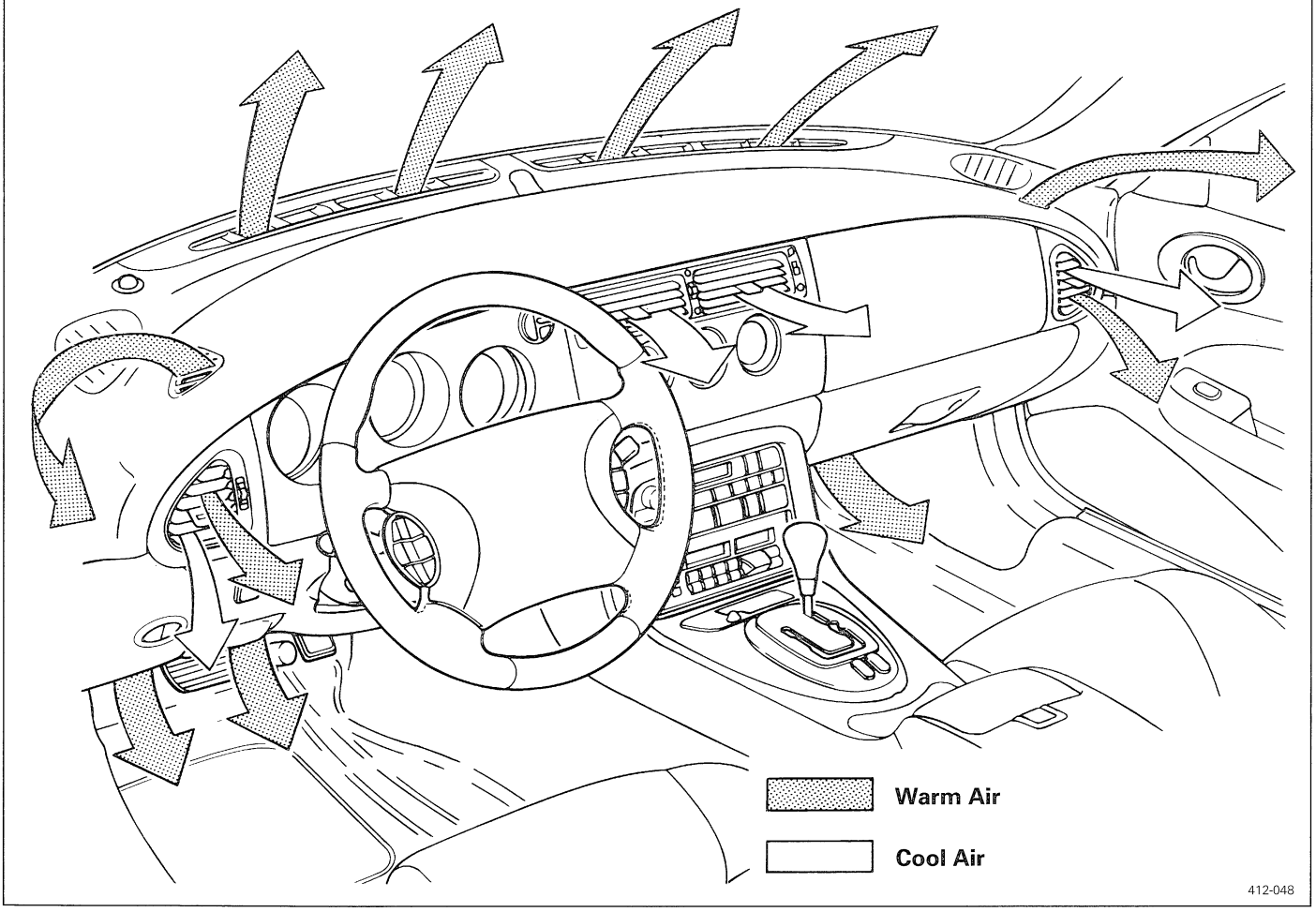
Many of the components are a carry-over from the 95MY XJ Series Sedan, as follows:-

- Control panel
- Center vent assembly, with thumbwheel control
- Solar sensor (moved to drivers side)
- Water valve
- Electric water pump (with new integral bracket)

Main Features of the climate control system are:

- LCD display for driver information
- Variable fan speed in automatic and manual modes
- Manual air flow distribution overrides
- Single control (thumb wheel) for differential airflow
- Serial link from panel to control module
- Self-diagnostic control system with displayed error codes

AIR DISTRIBUTION



Air Distribution

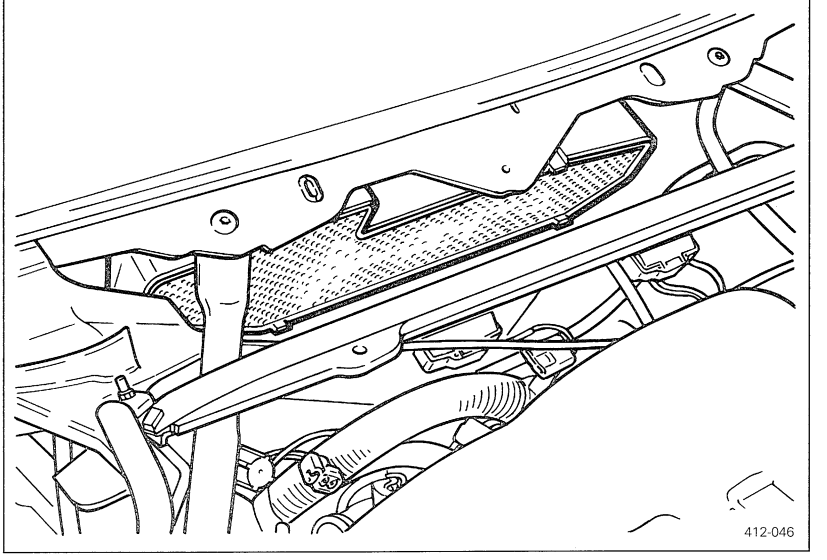
The airflow ducting/distribution system includes; connecting ducts between the blowers and A/C unit, front footwell ducts and end-of-dash ducts. Integral with the fascia trim is front and side glass demist/defrost ducting. The air conditioning and heater unit is located centrally behind the fascia. The air intake plenum houses an optional fit particle filter which is held in place by clips moulded on the filter housing. The filter is effective at removing particles above 3.5 microns.

Airflow is achieved by using two blower units, one either side of the air conditioning unit casing, which are ducted from a common fresh air intake. The two blower motors are controlled at variable speeds by the A/CCM. They are regulated by power transistor modules which provide linear variation of blower speed. The two blower motors are inhibited when the engine coolant temperature is below 30°C (86°F) and heating is requested. Air passes through the car to the trunk, venting under each rear wheel arch.

Air Conditioning Unit

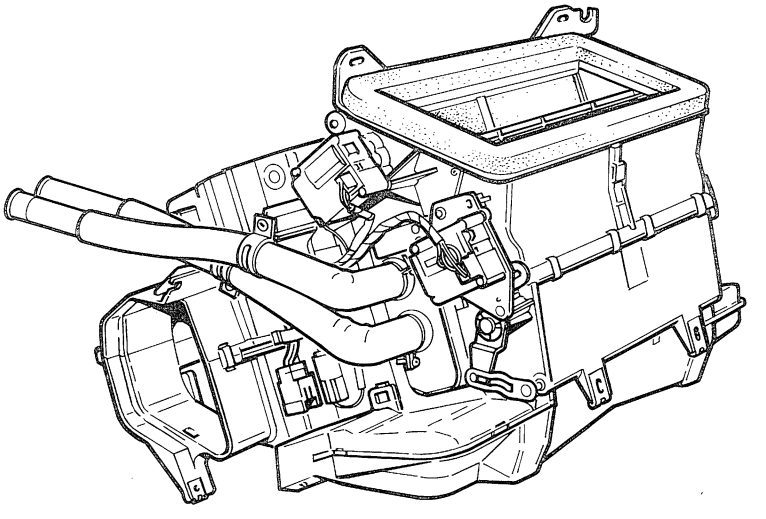
The A/C unit casing incorporates two servo motors which alter flaps to change air direction within the unit casing and/or cabin. The motors are driven by A/CCM signals both clockwise and anti-clockwise. As the 95MY sedan, the expansion valve is fitted into the A/C unit. Servo motor position is monitored by a feedback potentiometer in each motor housing. System servos are; right-hand and left-hand air intake (fresh/recirculated air) on blower units, center vent, defrost on the air distribution box and foot and cool air by-pass, part of the A/C unit.

PARTICLE FILTER



412-046

AIR CONDITIONING/HEATER UNIT



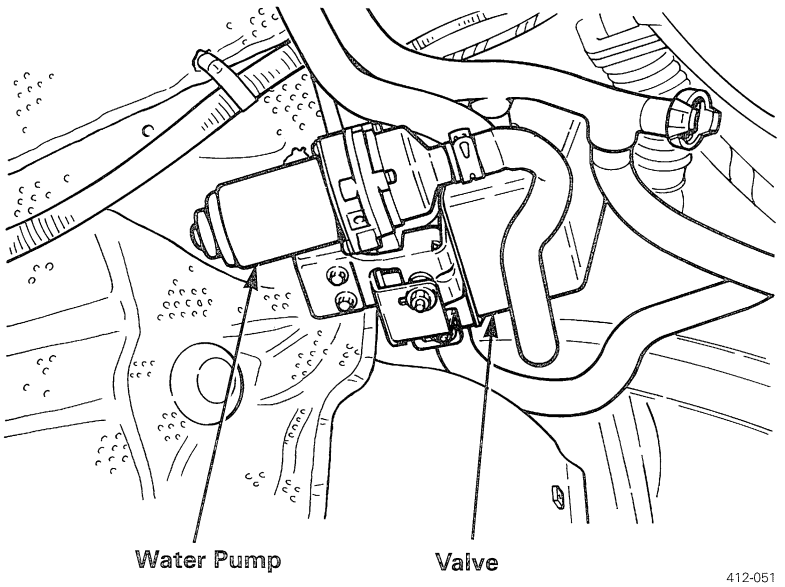
412-030

Heating System

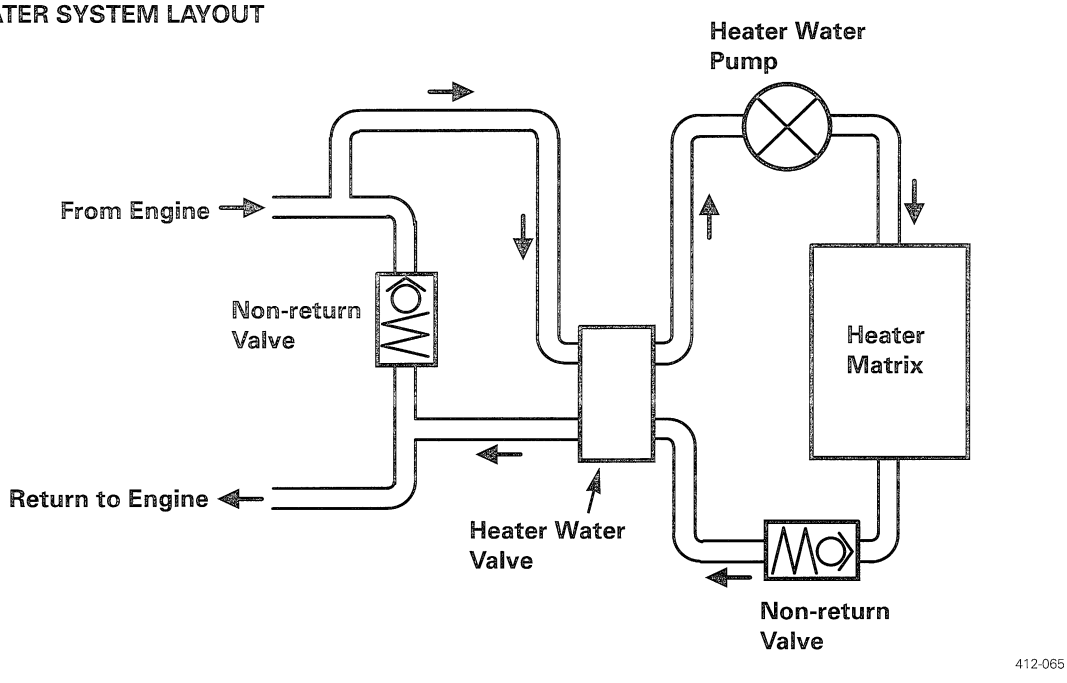
Hot water for heating the cabin air is supplied from the engine coolant system via a solenoid-operated control valve and circulated by an electric pump. The pump is energised in all engine running modes except low coolant temperature or in panel off mode. The pump is off with ignition on and engine not running. The water valve is used to regulate water flow to the heater matrix and so regulate outlet air temperature. The valve is located centrally under the hood, adjacent to the heater water pump, against the bulkhead behind a heatshield. The valve is de-energised with the ignition on and engine not running.

Heater take-off and return water pipes are positioned along the center of the engine vee to the thermostat/coolant pump. At low engine speeds the water flow in the engine is lower than that produced by the electric water pump therefore a non-return valve is positioned in the engine cooling circuit. This is to prevent the electric water pump recirculating water to the inlet side of the heater, against normal engine coolant flow. A second non-return valve is positioned in the heater circuit to prevent hot coolant convection back into the heater after the engine has been switched off. All water hose joints are spring band clips except small bleed system joints.

HEATER WATER PUMP AND VALVE



HEATER SYSTEM LAYOUT

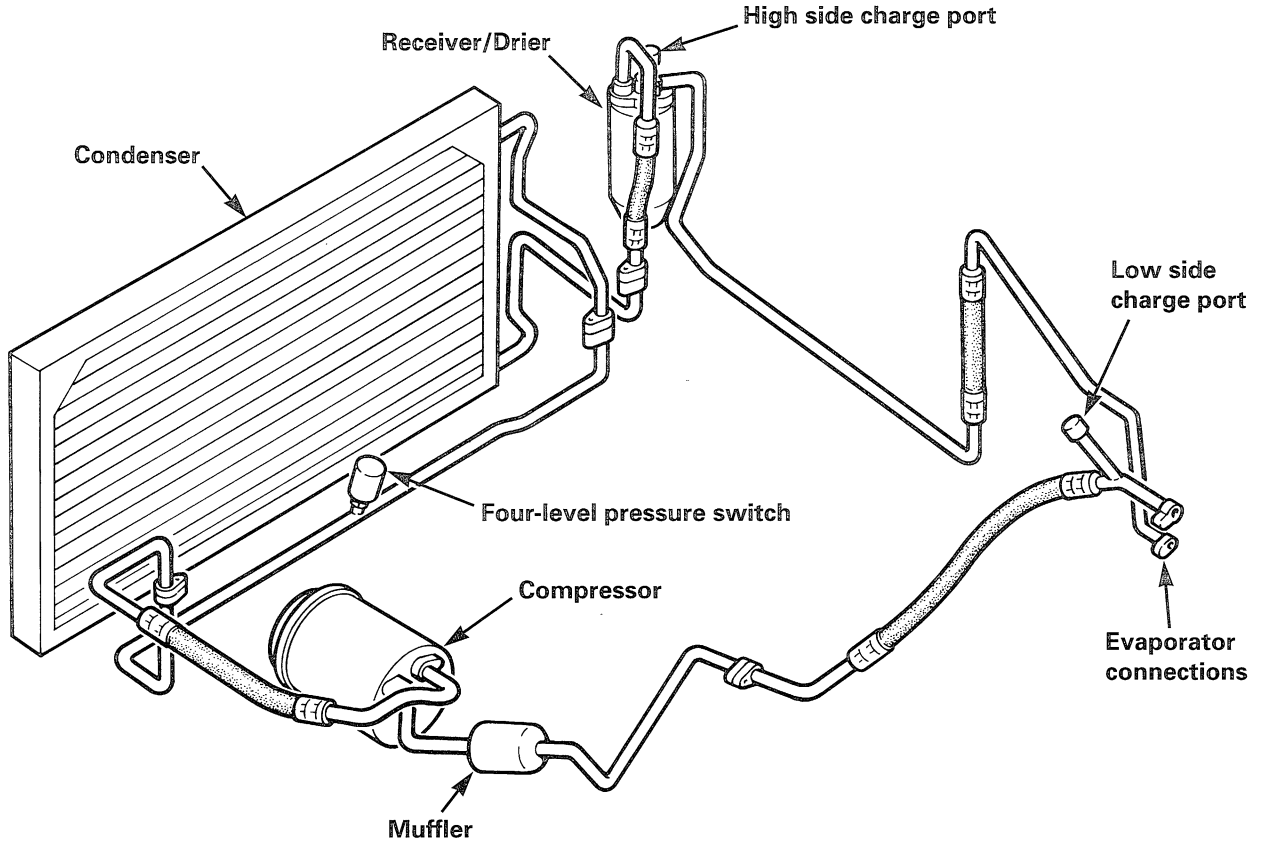


Refrigeration System

Air Conditioning Compressor

The air conditioning compressor is of fixed displacement and is engine mounted, driven by the common drive belt via a clutch. Operation of the compressor clutch is controlled, via a relay, by the ECM. A compressor on signal is monitored from the compressor relay to inform the A/CCM of the compressor status and to facilitate lock detection and error sensing. This compressor rotating signal is generated at the compressor and then compared with engine speed. If the speed ratio is excessive, the compressor clutch will disengage and the LED on the control panel will begin to flash. Refrigerant pressure is monitored by a four-level pressure switch located in the liquid coolant high pressure line. When abnormal pressures, below 2 bar (29 psi) or above 30 bar (435 psi), are sensed by the switch, it provides a signal via the A/CCM to the ECM to disengage the compressor clutch drive. The switch also provides a hard wired signal to the ECM to switch the radiator cooling fans to fast mode (parallel) at 22 bar (319 psi) rising pressure and to slow speed at 17.5 bar (253.75 psi) falling pressure. Slow speed operation of the cooling fans is signalled by the four-level pressure switch to the ECM to operate in slow speed (series) from 12 bar (175 psi) rising pressure and to switch the fans off at 8 bar(116 psi) falling pressure.

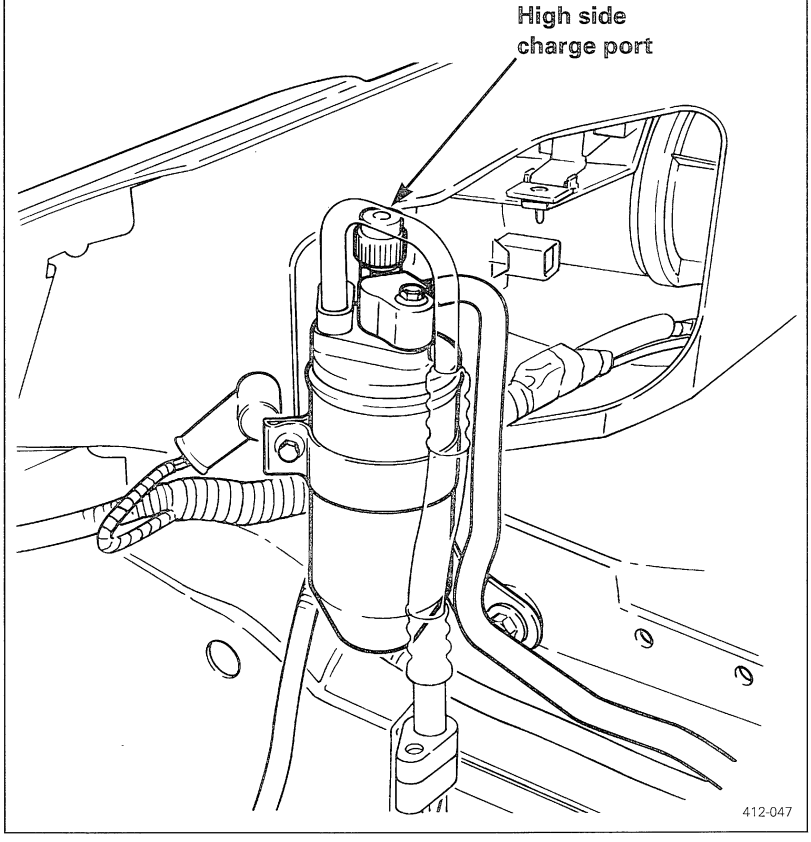
REFRIGERATION SYSTEM COMPONENT LAYOUT



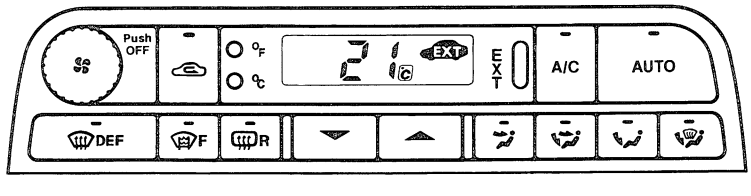
Receiver/Drier

The receiver/drier is vertically mounted adjacent to the radiator on the right-hand side in the engine compartment and has a high side charge port. The low side charging port is in the suction hose adjacent to the bulkhead. A lightweight multi-pass fin over tube condenser is car mounted forward of the main cooling radiator.

RECEIVER/DRIER



AIR CONDITIONING CONTROL PANEL



Air Conditioning Control

In-car temperature is maintained at the level selected on the control panel by the action of the A/CCM. The A/CCM is mounted on the side of the air conditioning unit casing, as the 95MY sedan, and can be accessed/removed without removing the fascia.

The A/CCM receives and computes signals input from a number of switches and sensors and provides the required power outputs to drive the servos, blowers, valves and screen/mirror heaters. The ECM is interfaced with the A/CCM to control operation of the air conditioning compressor. The ECM will de-energise the compressor relay when high engine temperatures or high acceleration demand a reduction in engine load. An air conditioning request signal from the A/CCM to the ECM to ask for compressor action will be responded to unless the engine temperature is too hot or engine speed is too low.

Windshield, Backlight and Door Mirror Heating

Windshield and backlight heating is also controlled through the A/CCM. Selecting defrost will activate the heated front windshield, where fitted, which will remain active for 6 minutes unless deselected by the driver. The backlight heater will remain energised for 21 minutes unless deselected by the driver. Engine speed is signalled to the A/CCM by the ECM inhibiting windshield and rear backlight heating when the engine is not running. Under certain conditions the heated front windshield will be automatically switched on. These conditions, all of which must be met, are ambient temperature at or below 0°C (32°F), vehicle speed above 30 mph (50 kph), both for more than 5 minutes duration. The heated front windshield warning light will not illuminate when the heater is on under this condition.

Switching on backlight heating also switches on door mirror heating.

Sensors

Solar Sensor
A solar sensor for measuring direct sunlight is mounted on top of the fascia adjacent to the driver side facia defrost vent. This provides a signal to the A/CCM ensuring in-car temperature stability with varying solar load heating

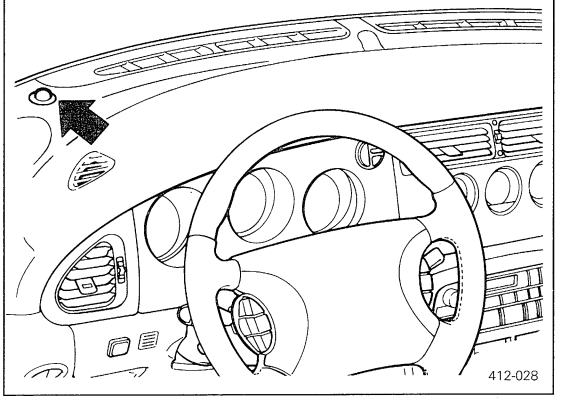
Ambient Temperature Sensor
An ambient temperature sensor is mounted on the right-hand horn bracket on the front bumper beam. This provides a temperature signal to the A/CCM which compensates for ambient conditions and also provides the signal for control panel ambient temperature display.

Evaporator Temperature Sensor
Located next to the evaporator fins is an air temperature sensor. This provides signals to the A/CCM which disengages the compressor when the outlet temperature is approaching 0°C (32°F) to prevent freezing conditions. When the evaporator air outlet temperature rises above 2.7°C (36.8°F) the A/CCM requests the ECM to re-engage compressor.

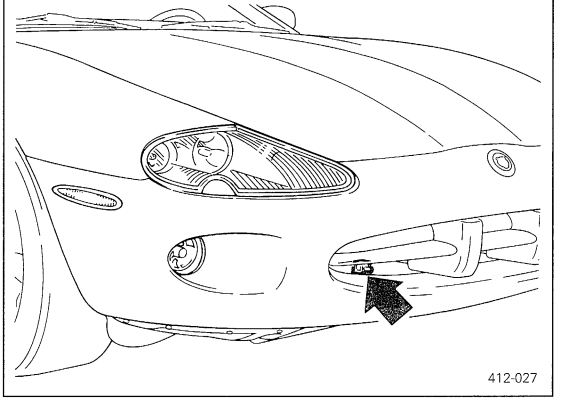
Heater Matrix Temperature Sensor
A temperature sensor is fitted inside the unit casing downstream of the heater matrix and measures post-heater air temperature.

In-car Temperature Sensor
Air temperature within the cabin is detected by an in-car temperature sensor which has the air drawn across it by a small motorised fan. The sensor is housed behind a small grill on the drivers knee bolster and is connected to the fan by a short length of rubber tube. The fan is also located on the driver's knee bolster assembly. The temperature signal is sent to the A/CCM.

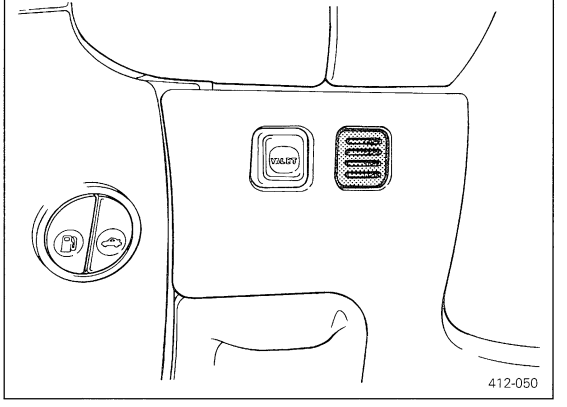
SOLAR SENSOR



AMBIENT TEMPERATURE SENSOR



IN-CAR TEMPERATURE SENSOR



Engine Control Module

The ECM provides a signal to the A/CCM to inhibit the blowers when the engine coolant temperature is below 30°C (86°F). This input also monitors the coolant temperature to the heater matrix to assist in heater outlet temperature control.

Air Conditioning Control Module

The A/CCM is capable of self-diagnosis and will store Diagnostic Trouble Codes for subsequent interpretation by the Jaguar Portable Diagnostic Unit or universal scan tool.

Electrical Distribution

Distribution cables supply battery power through a high power protection module to the starter motor and to five fuse boxes. Harnesses distribute battery, auxiliary and ignition power from the fuse boxes to all the user components.

Battery

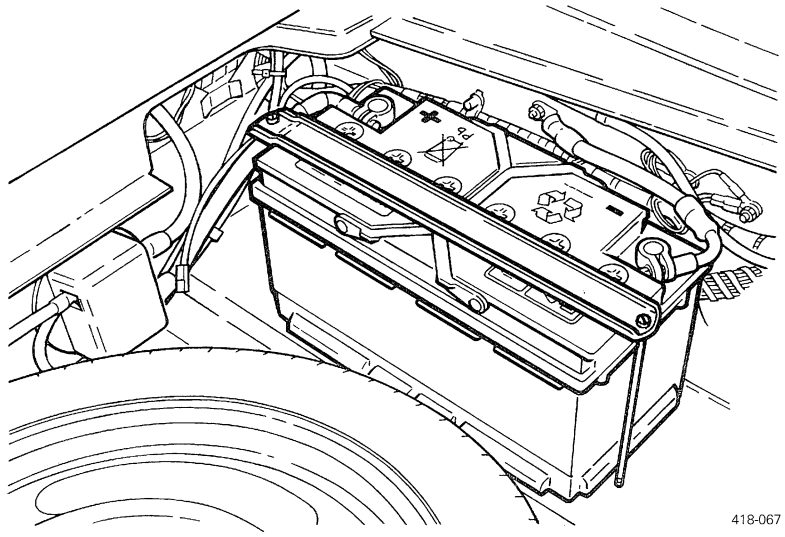
The DIN 88, 92 ampere hour battery is installed on the right side of the trunk floor below the trim.

CAUTION: Open both doors, or lower the windows of both doors, before disconnecting the battery. Disconnecting the battery disables the automatic window drop/raise function. Opening a door when the automatic window drop/raise function is disabled and the windows are closed could damage the door seals.

High Power Protection Module

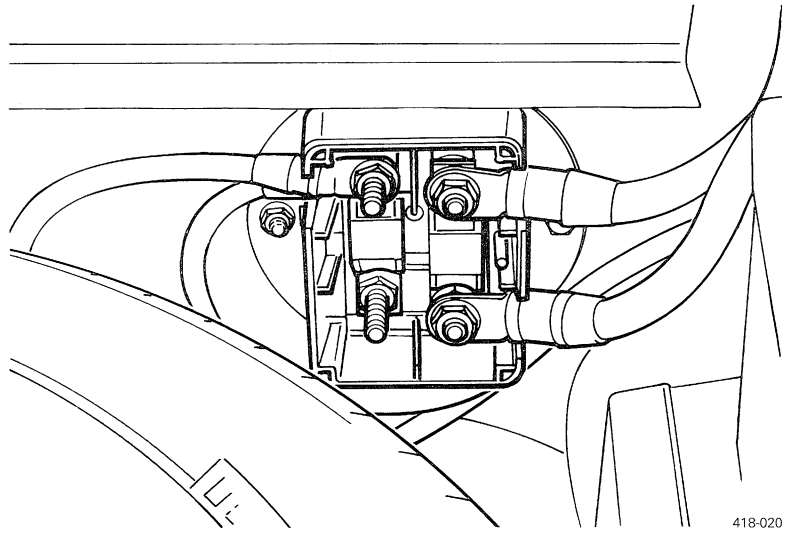
The high power protection module contains three 250 amperes fuses. Two fuses connected in parallel provide 500 amperes protection for the starter supply. The third fuse provides 250 amperes protection for the fuse box supplies.

BATTERY



418-067

HIGH POWER PROTECTION MODULE



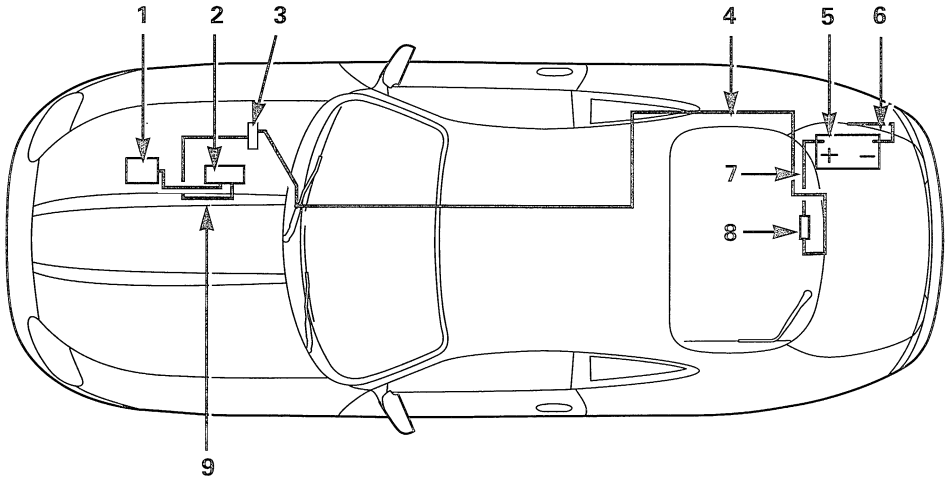
418-020

Power Distribution Cables

Heavy duty power distribution cables connect the battery to the body and the high power protection module, and the high power protection module to the engine starter and the vehicle fuse boxes. The distribution cable from the high power protection module to the starter is routed outside the vehicle.

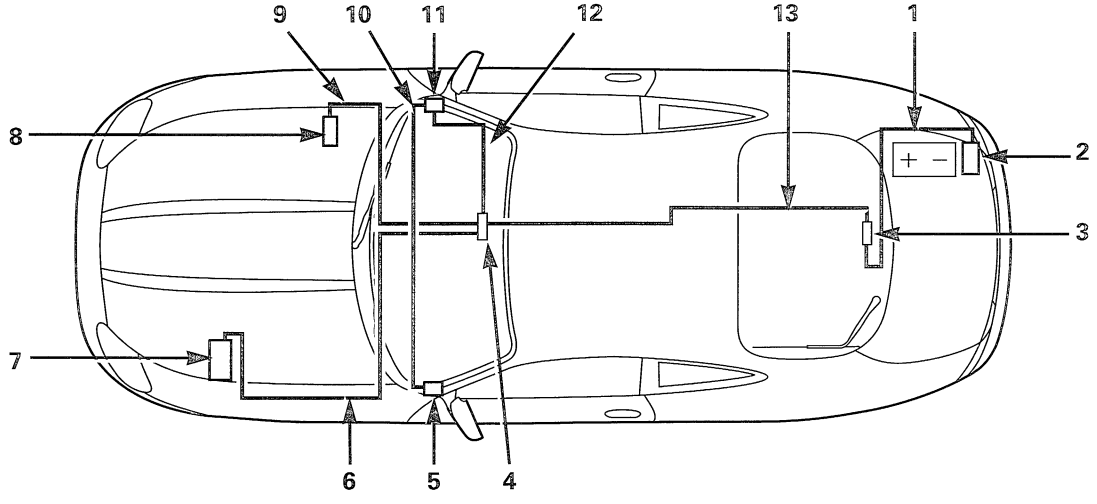
BATTERY POWER DISTRIBUTION

1 Alternator
2 Starter Motor
3 Power Stud
4 Positive Extension Cable
5 Battery
6 Negative Cable
7 Battery Positive Cable
8 High Power Protection Module
9 Starter Cable



418-075

FUSEBOX POWER DISTRIBUTION



1 Power Cable
2 Trunk Fusebox
3 High Power Protection Module
4 Power Stud
5 Fascia Fusebox
6 Power Cable
7 Left Front Fusebox
8 Engine Management Fusebox
9 Power Cable
10 Power Cable (Fascia Fuseboxes)
11 Fascia Fusebox
12 Power Cable (to RH Fascia Fusebox)
13 Positive Extension Cable

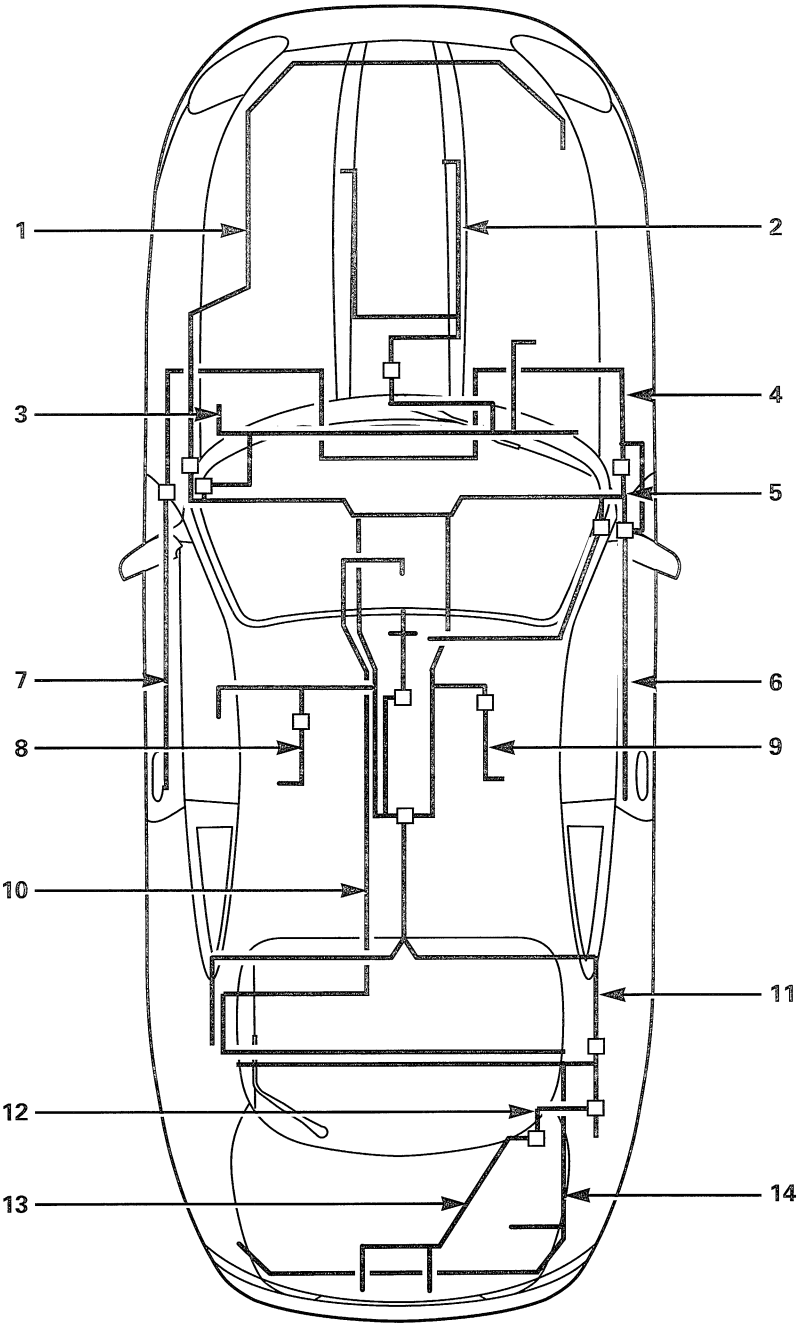
418-076

Harnesses

The vehicle harnesses plug directly onto components or component flying leads using locking connectors. Extensive use is made of harness securing clips, and the majority of the flying lead and interface connectors are secured to the adjacent structure or component.

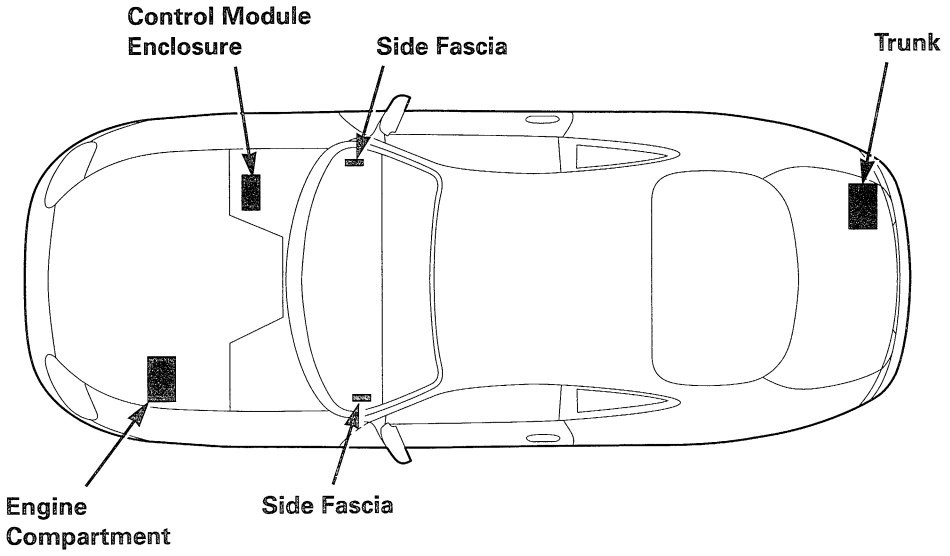
HARNESSES

1 Left Forward
2 Engine
3 Engine Management
4 Air Conditioning
5 Fascia
6 Passenger Door
7 Drivers Door
8 Drivers Seat
9 Passenger Seat
10 I.C.E.
11 Rearward
12 Trunk to Trunklid
13 Trunklid
14 Trunk



418-074

FUSE BOX LOCATIONS



JLK 021

Fuse Boxes

Five fuse boxes contain the protection fuses for all of the electrical circuits. A fuse map is located on the lid of the electrical carrier in the trunk. Spare fuses and a fuse extractor tool are installed on the underside of the lid.

Caution: Always replace blown fuses with the same rated fuse.

Relays

The majority of the relays are located in and around the fuse boxes. Those in the engine compartment enclosures are in groups of three, under protective covers.

Fuse Identification Table

Fuse Box/ Number	Color	Rating (Amperes)	Circuit
Engine Compartment			
1	Red	10	TCM
2	-	-	Not used
3	Tan	5	Active security sounder; ignition supply (to front fog lamps, A/C coolant pump relay coils) and center console switchpack
4	Tan	5	Brake control module
5	Red	10	ECM; fuel injection main relay coil; generator regulator; starter relay coil
6	Red	10	RH low beam headlamp
7	Green	30	Power wash pump (where fitted)
8	Red	10	LH low beam headlamp
9	Red	10	Active security sounder
10	-	-	Not used
11	Red	10	RH horn
12	Green	30	Radiator fans (series/parallel)
13	Red	10	LH horn
14	Green	30	Radiator fans (parallel)
15	Red	10	A/C coolant pump
16	Green	30	ABS control valves
17	Blue	15	Front fog lamps
18	Green	30	ABS pump motor
19	Red	10	RH high beam headlamp
20	-	-	Not used
21	Red	10	LH high beam headlamp
22	-	-	Not used
Control Module Enclosure			
1	-	-	Not used
2	-	-	Not used
3	Natural	25	Starter solenoid
4	Tan	5	ECM; TCM
5	Red	10	Fuel injectors
6	-	-	Not used
7	-	-	Not used
8	Red	10	A/C compressor clutch
9	Green	30	Throttle motor
10	Tan	5	Cruise control VSV; ECM; electronic throttle mechanical guard
11	-	-	Not used
12	Red	10	Air flowmeter; variable valve timing solenoids; radiator fans control module
13	-	-	Not used
14	Red	10	A/C compressor clutch relay coil; EGR valve; EVAP valve; HO2S heaters; ignition coils relay coil; throttle motor relay coil
15	Green	30	Windshield LH heater (where fitted)
16	Tan	5	Bulkhead extension cooling fan
17	Green	30	Windshield RH heater (where fitted)
18	Red	10	Ignition coils

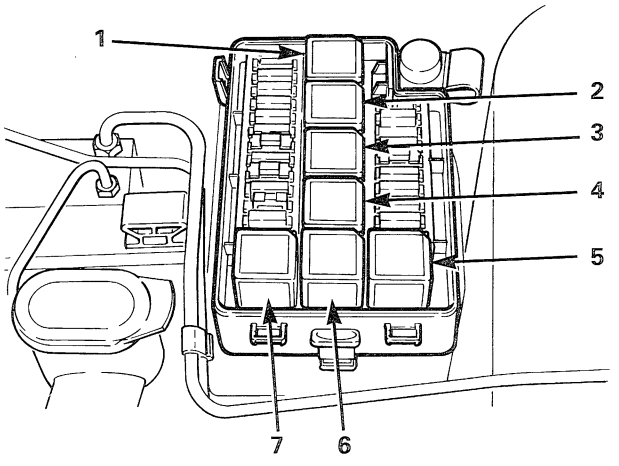
Fuse Identification Table (continued)

Fuse Box/ Number	Color	Rating (Amperes)	Circuit
Driver's Side Fascia			
1	Yellow	20	Driver's seat module
2	Red	10	Door mirror heaters
3	Green	30	Windshield wiper motor; windshield wiper motor fast/ slow relay coil; windshield wiper motor on/off relay coil
4	Red	10	Airbag/SRS control module
5	Blue	15	BPM (5V logic; lamps supply)
6	Tan	5	Center console switchpack battery supply; diagnostic connector (battery supply); garage door opener
7	Blue	15	BPM (battery supply for solenoids, lamps and motors)
8	Tan	5	Driver's seat switchpack; driver's seatbelt buckle switch; steering column adjustment switch
9	-	-	Not used
10	-	-	Not used
11	Yellow	20	A/C Driver's blower motor
12	Red	10	A/C blower motor relay coil; A/C compressor lock; A/CCM ignition supply; door mirror heaters relay coil
13	-	-	Not used
14	Red	10	cruise control on/off switch; major instrument cluster (ignition supply)
15	Natural	25	Driver's door module
16	Tan	5	Diagnostic connector (ignition supply); electrochromic interior mirror (where fitted); gear selector; transmission mode switch; windshield heater relay coils (where fitted)
17	Red	10	Accessory connectors (battery supply)
18	Tan	5	Major instrument cluster (battery supply)
Passenger's Side Fascia			
1	Yellow	20	Passenger seat module
2	Red	10	Door lock actuators; door lock relay coil
3	-	-	Not used
4	Tan	5	Door lock switches; door window switches; memory switches
5	Red	10	Telephone transceiver and RT connector (where fitted)
6	Red	10	A/C control module; A/C isolate relay
7	Yellow	20	BPM (steering column adjustment motor)
8	Tan	5	Passenger seat switches; passenger seatbelt buckle switch
9	Red	10	Radio cassette (battery supplies)
10	Tan	5	Telephone handset and transceiver (where fitted)
11	Yellow	20	A/C Passenger blower motor
12	Tan	5	Radio cassette (auxiliary supply)
13	-	-	Not used
14	Yellow	20	Cigar lighter
15	Natural	25	Passenger door module
16	Tan	5	Airbag/SRS control module
17	Blue	15	BPM (lamps battery supply)
18	Red	10	Dimmer control module

Fuse Identification Table (continued)

Fuse Box/ Number	Color	Rating (Amperes)	Circuit
Trunk			
1	Tan	5	Coupe : SLM (back-up lamps supply)
	Tan	5	Convertible : SLM (back-up lamps supply); quarter lights down and up relay coils
2	Yellow	20	Adaptive damping control module (where fitted)
3	Tan	5	Ignition supply (to fuel pump, backlight heater and rear fog lamps relay coils)
4	Tan	5	Adaptive damping control module (where fitted)
5	Tan	5	Lamp control module
6	Tan	5	Left and right stop lamps
7	Yellow	20	Fuel pump
8	Tan	5	HMSL
9	Red	10	Antenna motor; remote power amplifier (premium ICE only)
10	Yellow	20	SLM
11	Red	10	Accessory connectors (auxiliary supply)
12	Yellow	20	Coupe : Not applicable
	Yellow	20	Convertible : RH quarter light lift motor
13	-	-	Not used
14	Orange	40	Coupe : Not applicable
	Orange	40	Convertible : Convertible top hydraulic pump motor
15	Red	10	Rear fog lamps
16	-	-	Not used
17	Natural	25	Backlight heater
18	-	-	Not used
19	Tan	5	RH tail lamp; license plate lamps
20	Yellow	20	Coupe : Not applicable
	Yellow	20	Convertible : LH quarter light lift motor
21	Tan	5	LH tail lamp; LH and RH rear side marker lamps
22	-	-	Not used

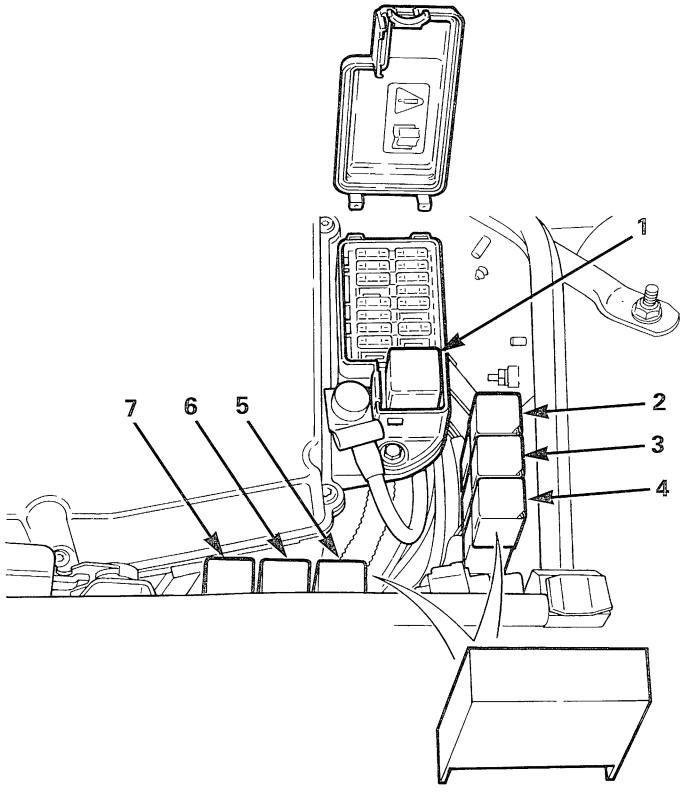
ENGINE COMPARTMENT FUSE BOX RELAYS



Relay Identification Tables

Location/ Number	Relay	Color
Engine Compartment Fuse Box		
1	Ignition	Brown
2	Horn	Brown
3	Headlamp low beam	Brown
4	Power wash	Brown
5	A/C coolant pump	Brown
6	Front fog lamps	Brown
7	Headlamp high beam	Brown

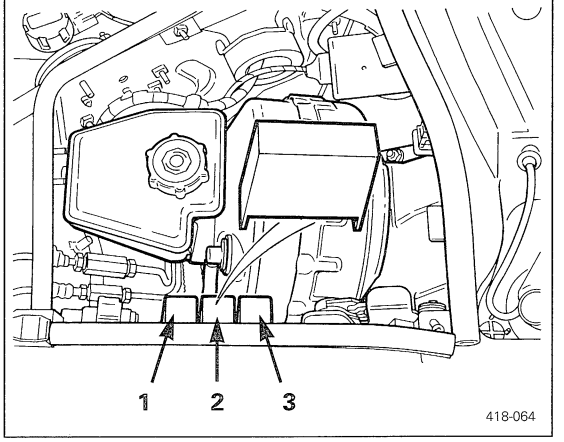
CONTROL MODULE ENCLOSURE RELAYS



Location/ Number	Relay	Color
Control Module Enclosure		
1	EMS control	Brown
2	Fuel injection main	Brown
3	Throttle motor power	Brown
4	Ignition coil	Brown
5	Starter	Brown
6	Windshield LH heater (where fitted)	Brown
7	Windshield RH heater (where fitted)	Brown

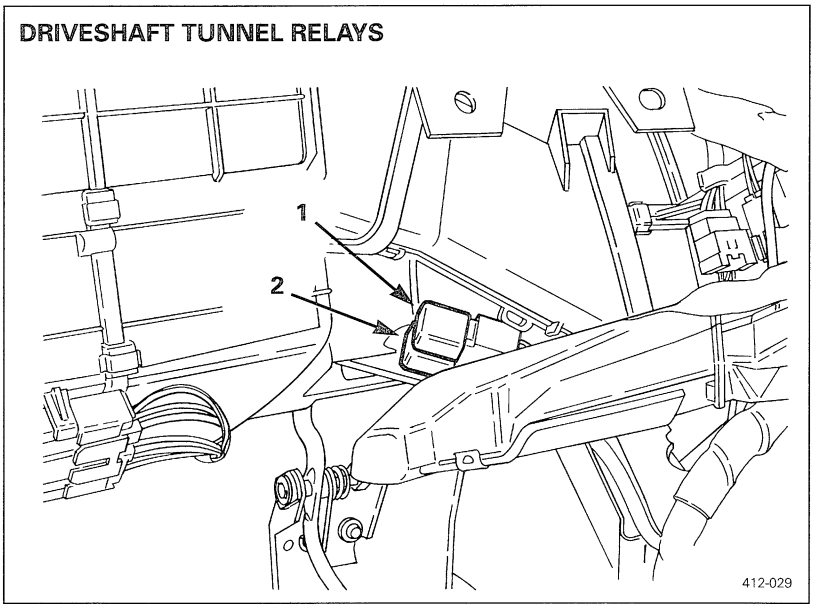
Location/ Number	Relay	Color
Brake Booster Enclosure		
1	A/C compressor clutch	Brown
2	Wiper on/off	Black
3	Wiper fast/slow	Black

BRAKE BOOSTER ENCLOSURE RELAYS

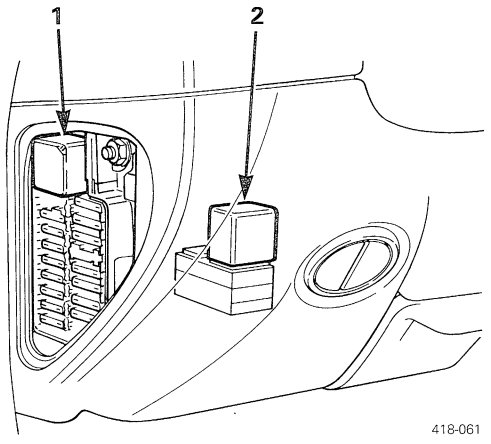


Location/ Number	Relay	Color
Driveshaft Tunnel		
1	RH blower	Blue
2	LH blower	Blue

DRIVESHAFT TUNNEL RELAYS

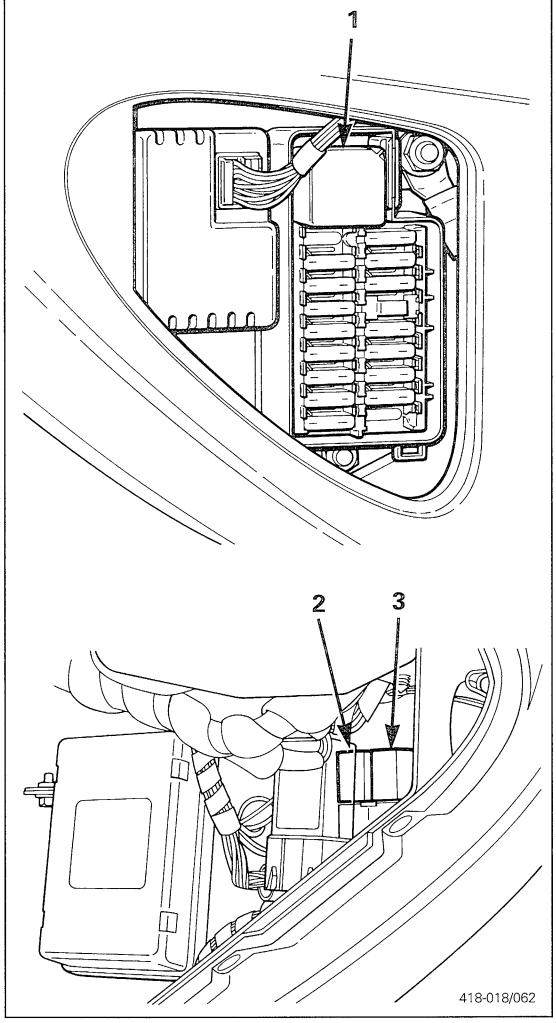


FASCIA LH RELAYS



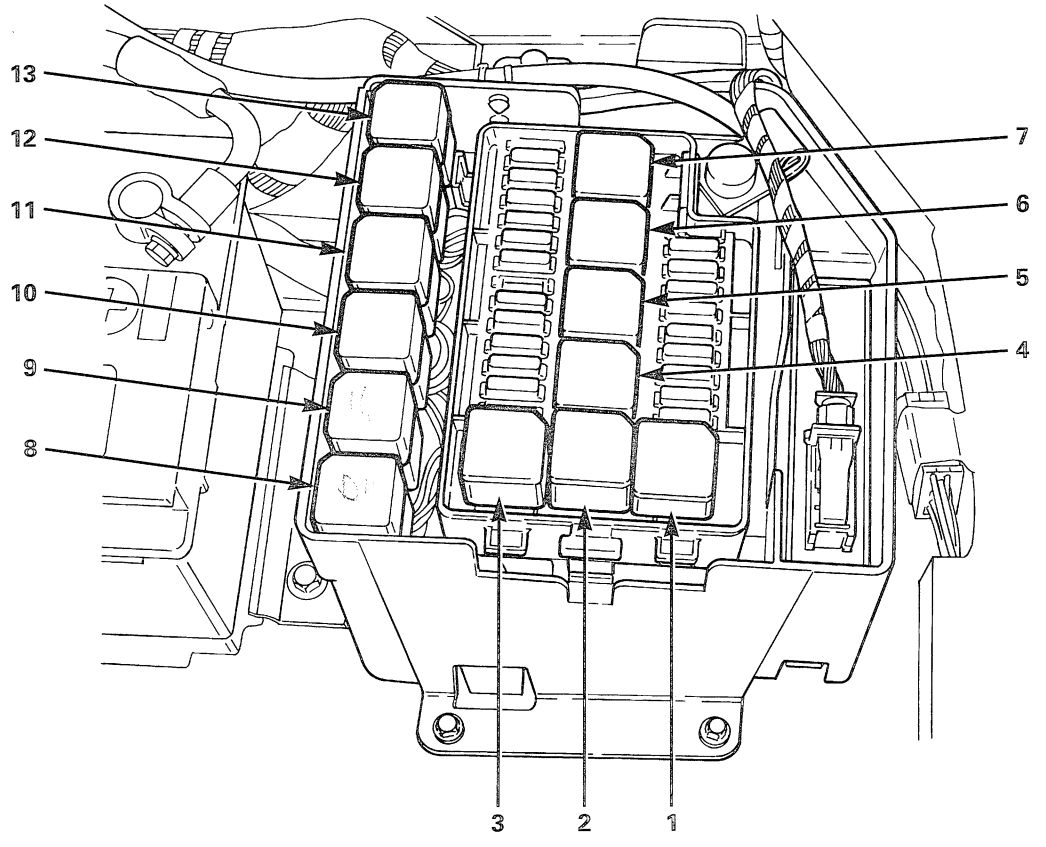
Location/ Number	Relay	Color
Fascia LH Relays		
1	Ignition	Brown
2	Door mirror heater	Blue

FASCIA RH RELAYS



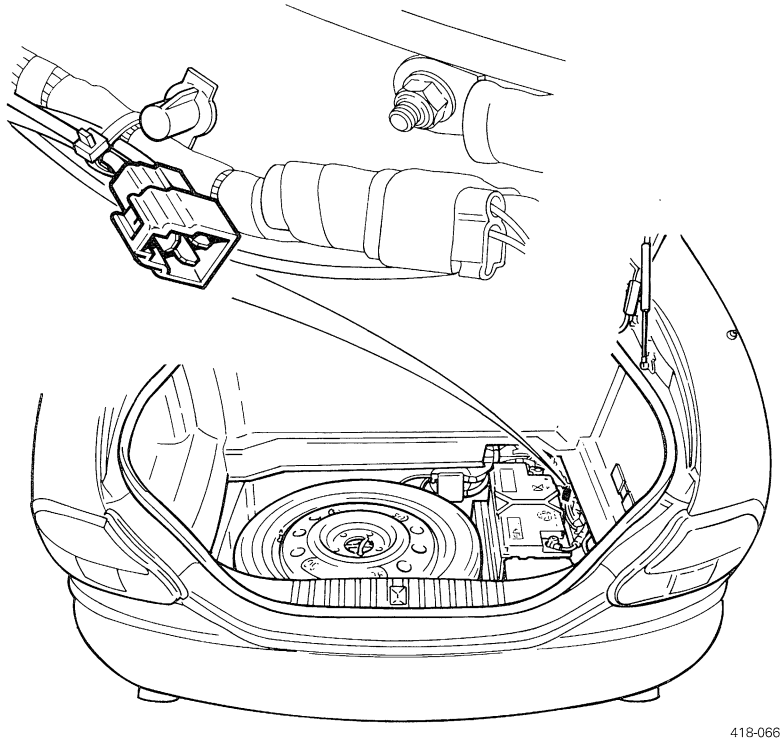
Location/ Number	Relay	Color
Fascia RH Relays		
1	Auxiliary	Brown
2	Door lock	Violet
3	A/C isolate	Violet

TRUNK RELAYS



Location/ Number	Relay	Color
Trunk		
1	Rear fog lamps	Brown
2	Backlight heater	Brown
3	Tail, license plate and rear side marker lamps	Brown
4	Fuel pump	Brown
5	Stop lamps	Brown
6	Accessory socket (option)	Brown
7	Ignition	Brown
8	Top down (convertible only)	Black
9	Top up(convertible only)	Black
10	LH quarter light up (convertible only)	Black
11	LH quarter light down (convertible only)	Black
12	RH quarter light up (convertible only)	Black
13	RH quarter light down (convertible only)	Black

REAR ACCESSORY CONNECTORS



418-066

Accessory Supplies

There are two accessory connectors, one in the fascia and one in the trunk. The wiring is the same for each 3-pin connector: The connector is designed to accept 6.35mm (.25 inch) female LUCAR type connectors

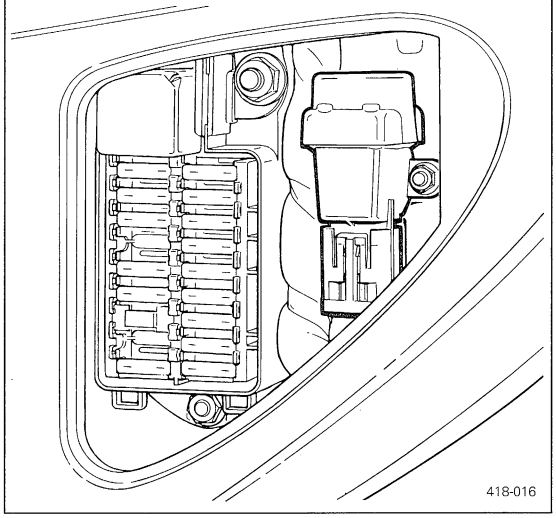
Pin 001 (Brown/Light green wire): +12 V Battery

Pin 002 (Black wire): Ground

Pin 003 (Purple/Brown wire): +12 V Auxiliary

The fascia connector cannot be used if a Jaguar rechargeable torch is fitted.

INERTIA SWITCH



418-016

Inertia Switch

The inertia switch is installed next to the fuse box in the LH end of the fascia. When activated, it de-energizes the ignition relays in the engine compartment, driver's side fascia and trunk fuse boxes. It also removes ground inputs from the BPM and windshield wiper stalk switch. This stops the engine and fuel pump, unlocks any locked door, and de-energises unnecessary electrical systems. The switch is reset by pressing down on the rubber cap on the top of the switch.

Communication Networks

The vehicle contains 3 multiplex systems, CAN, SCP and ISO-9141/2. These are used for the exchange of communication and diagnostic information between control modules, the major instrument cluster and the diagnostics connector.

Major Instrument Cluster

The major instrument cluster is connected to the SCP and the CAN networks, and provides the gateway for the transfer of messages between the two networks.

CAN

A CAN communications network is used on this vehicle which links the following systems:
ECM, TCM, ABS, INSTRUMENTS and GEAR SELECTOR ILLUMINATION MODULE.

The network runs at 500Kbps over a twisted wire pair and allows the interchange of information between the modules on the network. This information comprises sensor data, switch data and real time control data. The object of the system is to allow the addition or omission of nodes in a modular open system fashion. The network is referred to as high speed to reflect the real-time nature of the information it carries and the bit rate required to meet the response times, such as traction control and gear shift management.

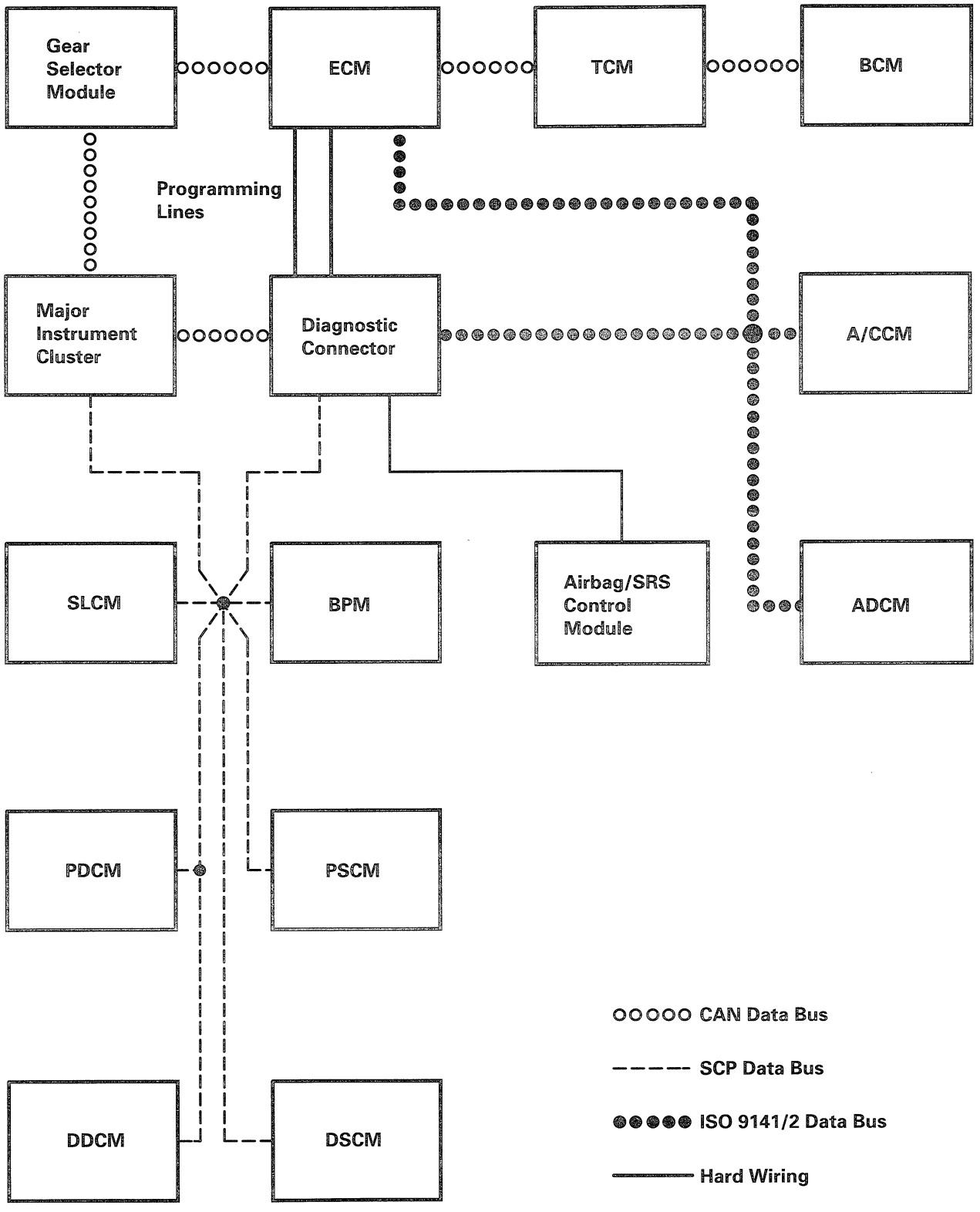
SCP

The SCP network links the control modules of the main body systems together. The network operates at 41.6 Kbauds over a separate twisted wire pair, giving a possible maximum of approximately 500 messages/second. It is an event driven system, where the control modules connected to the network only output messages when an event occurs (eg. a switch operates) or they receive an information request from another control module.
Zonal partitioning, instead of functional, means that individual control modules on the SCP network are not necessarily dedicated to one system, eg. the SLM operates the back-up lamps. Generally, the location of the control module dictates the functions it performs.
Control modules on the SCP network are "star" connected. If one of the wires in the twisted pair is broken or shorted, communication continues uninterrupted on the remaining wire using chassis ground as the other conductor. If the continuity of both data buses is broken, only messages through the broken section are affected.

ISO 9141/2

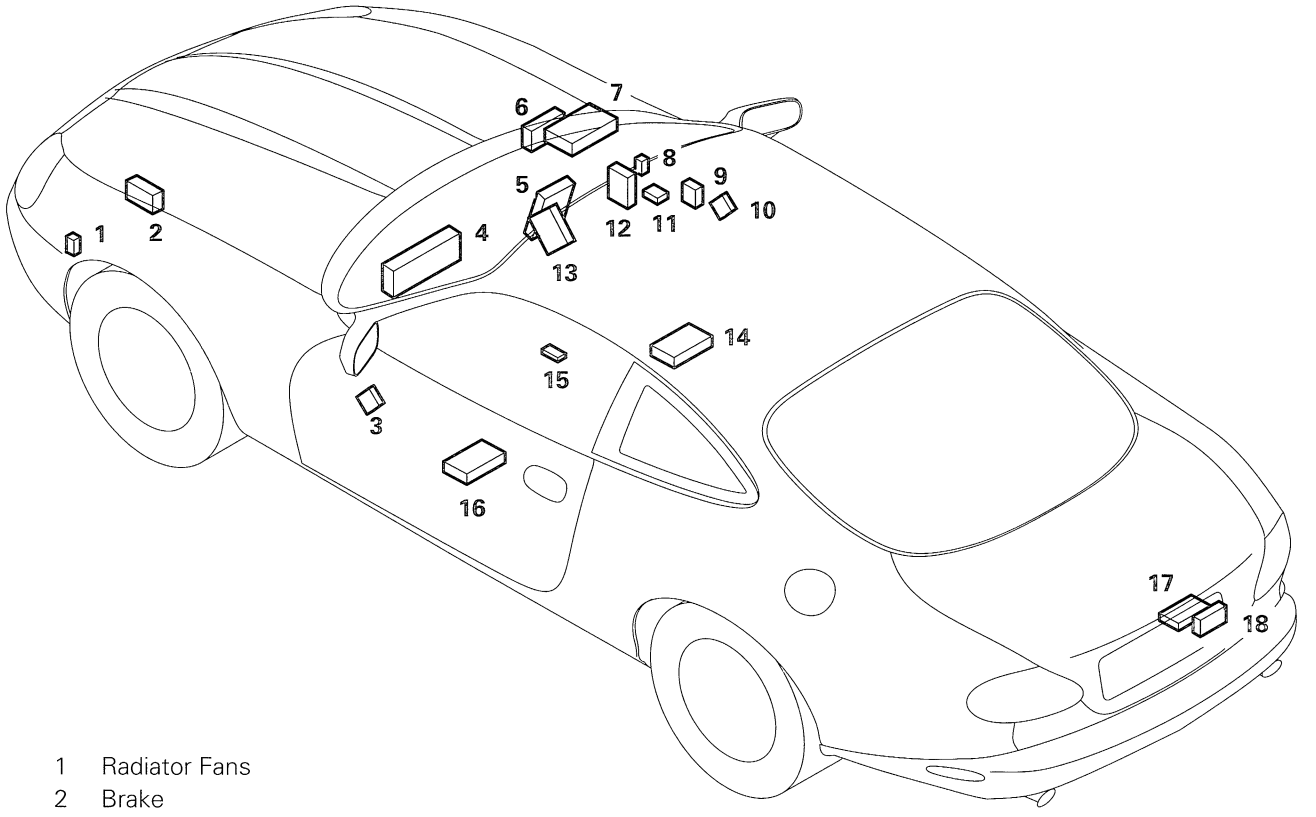
The ISO 9141/2 network links the diagnostic connector to the ECM, and to those control modules with a self-diagnostic capability that are not connected to the CAN or SCP network. The network operates at 10.4 Kbauds.

COMMUNICATION NETWORKS



Control Modules

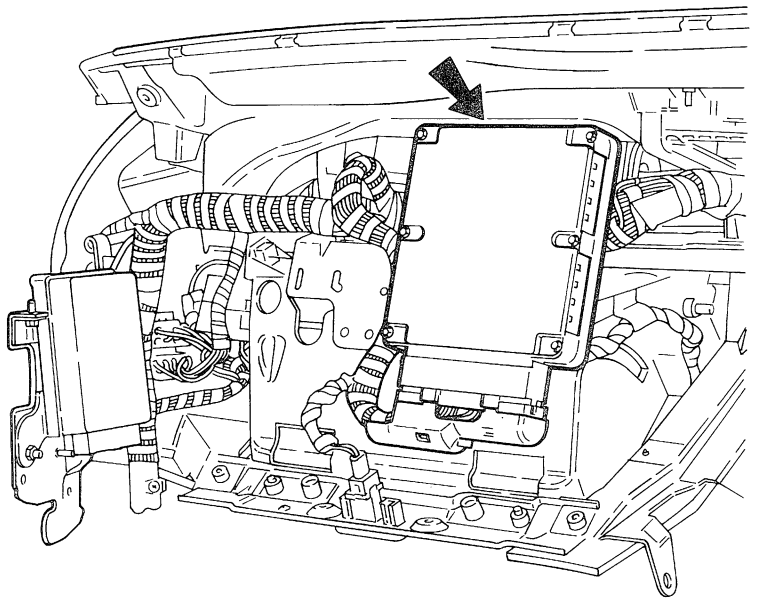
CONTROL MODULE LOCATIONS



1 Radiator Fans
2 Brake
3 Driver Door
4 Major Instrument Cluster
5 Body Processor
6 Transmission
7 Engine
8 Steering
9 Dimmer
10 Passenger Door
11 Garage Door Opener
12 Airbag/SRS
13 Air Conditioning
14 Passenger Seat
15 Gear Selector Illumination
16 Driver Seat
17 Security and Locking
18 Lamp

418-123

BODY PROCESSOR MODULE



Body Processor Module

The Body Control System consists of six modules:

- Body Processor Module (BPM)
- Security and Locking Control Module (SLCM)
- Driver Door Control Module (DDCM)
- Passenger Door Control Module (PDCM)
- Driver Seat Control Module (DSCM)
- Passenger Seat Control Module (PSCM)

Except for the BPM, the modules are described within the relevant sections of this guide.

The BPM is located in the fascia, mounted on the passenger airbag/SRS bracket, behind and above the glovebox.

The BPM functions are (where fitted):

- Interior and exterior lighting, except for the door puddle lamps and the rear lamp bulb failure
- Windshield wash/wipe and headlamp power wash
- Steering column memory
- Action alarm lights and sounders and inhibits engine crank
- Gearshift and ignition key interlocks
- Various switches, for example: convertible top, trunk release, fuel filler flap release
- Various audible and visual alarms, for example: sidelight on warning, convertible top operating, seat belt status.

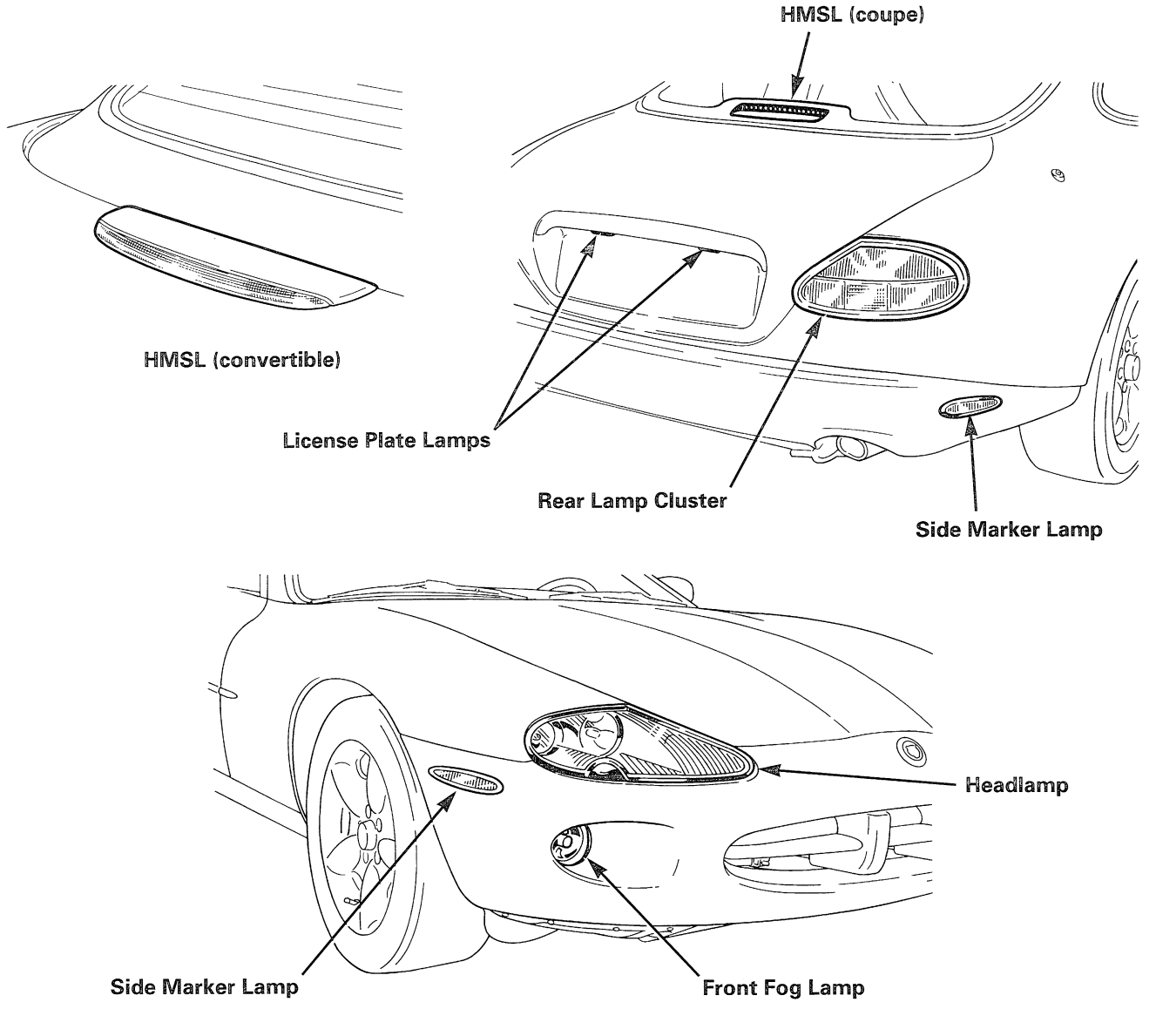
Exterior Lighting

Exterior lighting is provided by the headlamps, front fog lamps, rear lamp clusters and license plate lamps. Vehicles also have side marker lamps and an HMSL.

The BPM and SLCM operate the lamps in response to control inputs from various switches and the SCP - REVERSE GEAR SELECTED message from the major instrument cluster.

A lamp control module monitors the bulbs of the tail, stop (not HMSL) and rear side marker. The BPM monitors all the turn indicator bulbs.

EXTERIOR LAMPS



Headlamps

The headlamps incorporate the high and low beam headlamps, the front turn indicator lamps and the side lamps.

Each headlamp is secured to the body by two screws and a nut. A rubber gasket around the periphery of the lens seals the headlamp with the body.

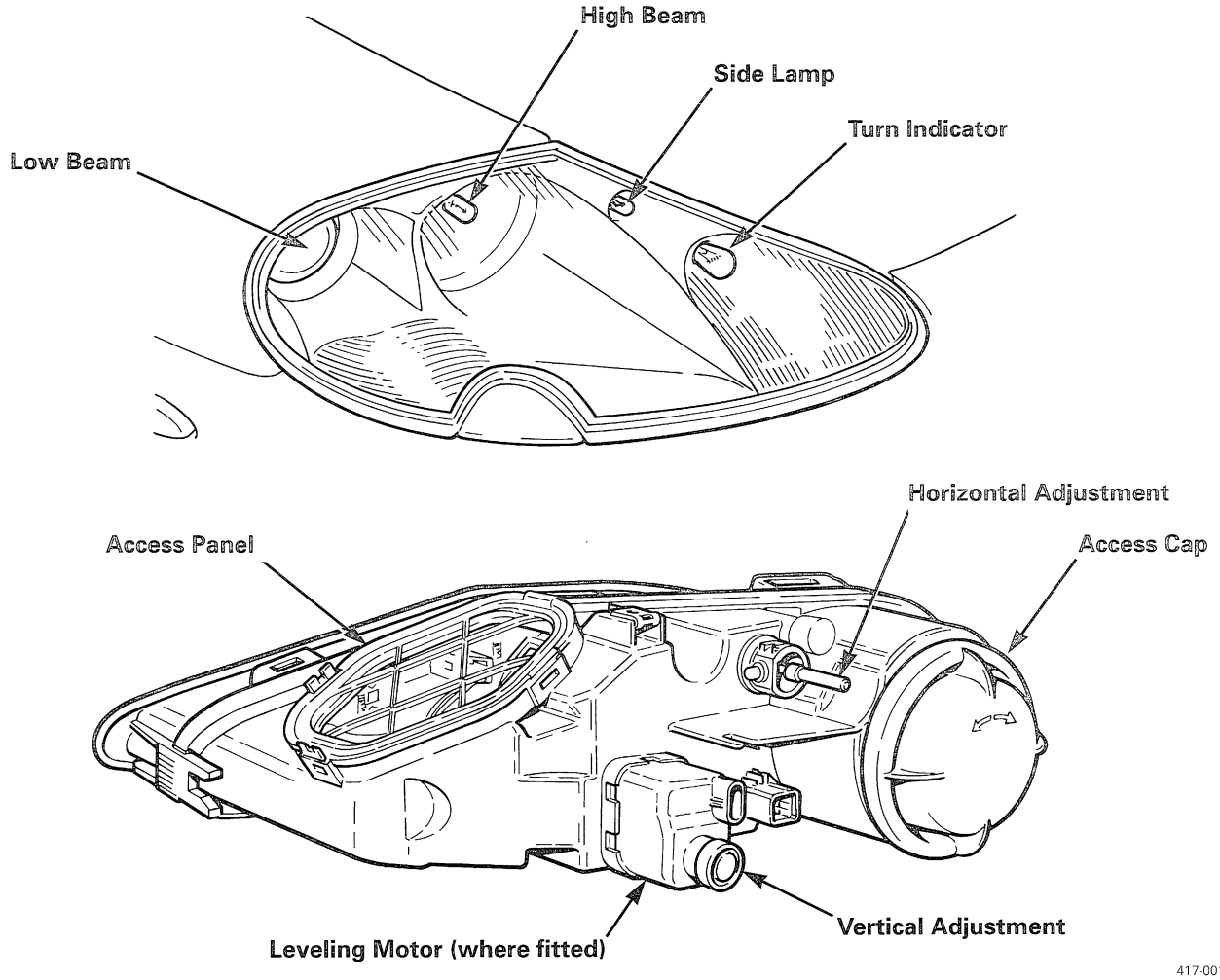
Clips secure the lens to the lamp housing and a rubber gasket seals the interface. The housing contains four separate bulbs:

- H1 55W low beam headlamp bulb, retained by a spring clip
- HB3 65W high beam headlamp bulb, retained by a spring clip
- W 5W side lamp bulb, in a bulb holder
- PY 21W front turn indicator lamp bulb, in a bulb holder.

Circuits integrated into the housing link all the bulbs and bulb holders to a single connector on the rear of the housing.

All bulbs, except high beam, are long life bulbs.

HEADLAMP



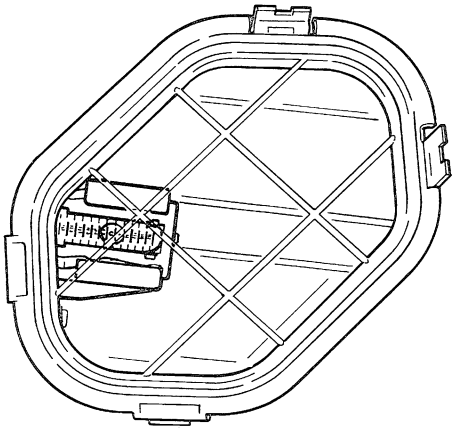
417-001/047

Headlamp Adjustment

Adjusters for horizontal and vertical alignment are also on the rear of the housing. To enable roadside alignment checks, headlamps contain an adjustment scale, visible through a clear plastic panel on the inboard side of the housing.

Removal of the clear plastic panel provides access for replacement of all the bulbs except for the low beam headlamp bulb. The cap on the rear of the housing, accessed through the panel in the wheel arch liner, provides the access for the low beam headlamp bulb.

HEADLAMP ADJUSTMENT SCALE



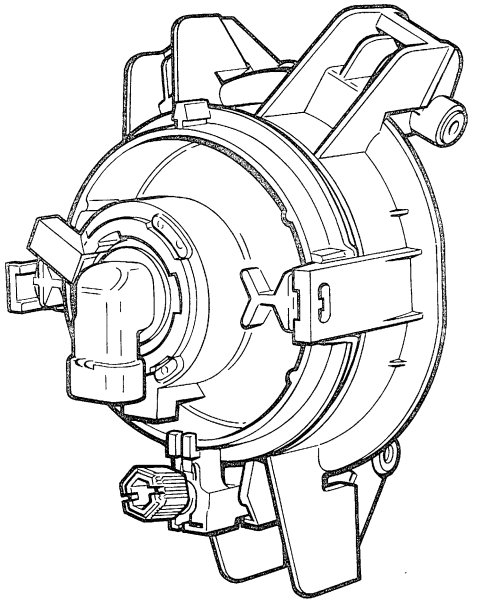
417-043

Front Fog Lamps

The front fog lamps are installed in recesses in the front bumper. Three screws secure each fog lamp. Due to the orientation of the securing holes, the lamps are not interchangeable.

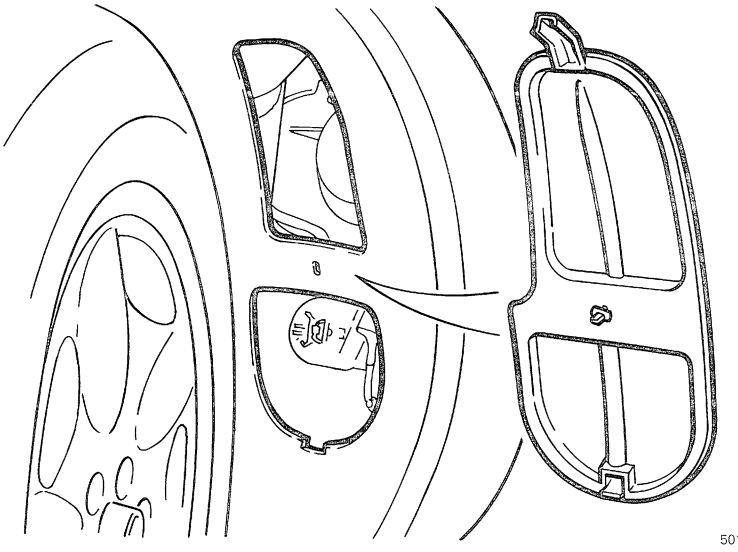
Each lamp has an adjuster for vertical alignment (only) and an H1 55W bulb installed in a bulb holder. Access for adjustment and bulb replacement is through the panel in the wheel arch liner.

FRONT FOG LAMP



417-010

FRONT WHEEL ARCH LINER ACCESS PANEL



501-069

Rear Lamp Clusters

The rear lamp clusters incorporate the back-up lamps, rear turn indicator lamps, rear fog lamps, tail lamps and stop lamps.

Each rear lamp cluster is secured to the body by three nuts. A rubber gasket around the periphery of the lens seals the lamp cluster with the body. Clips secure the lens to the lamp cluster housing and a rubber gasket seals the interface.

Note: To release the clips (eg. for lens replacement), the old lens has to be broken.

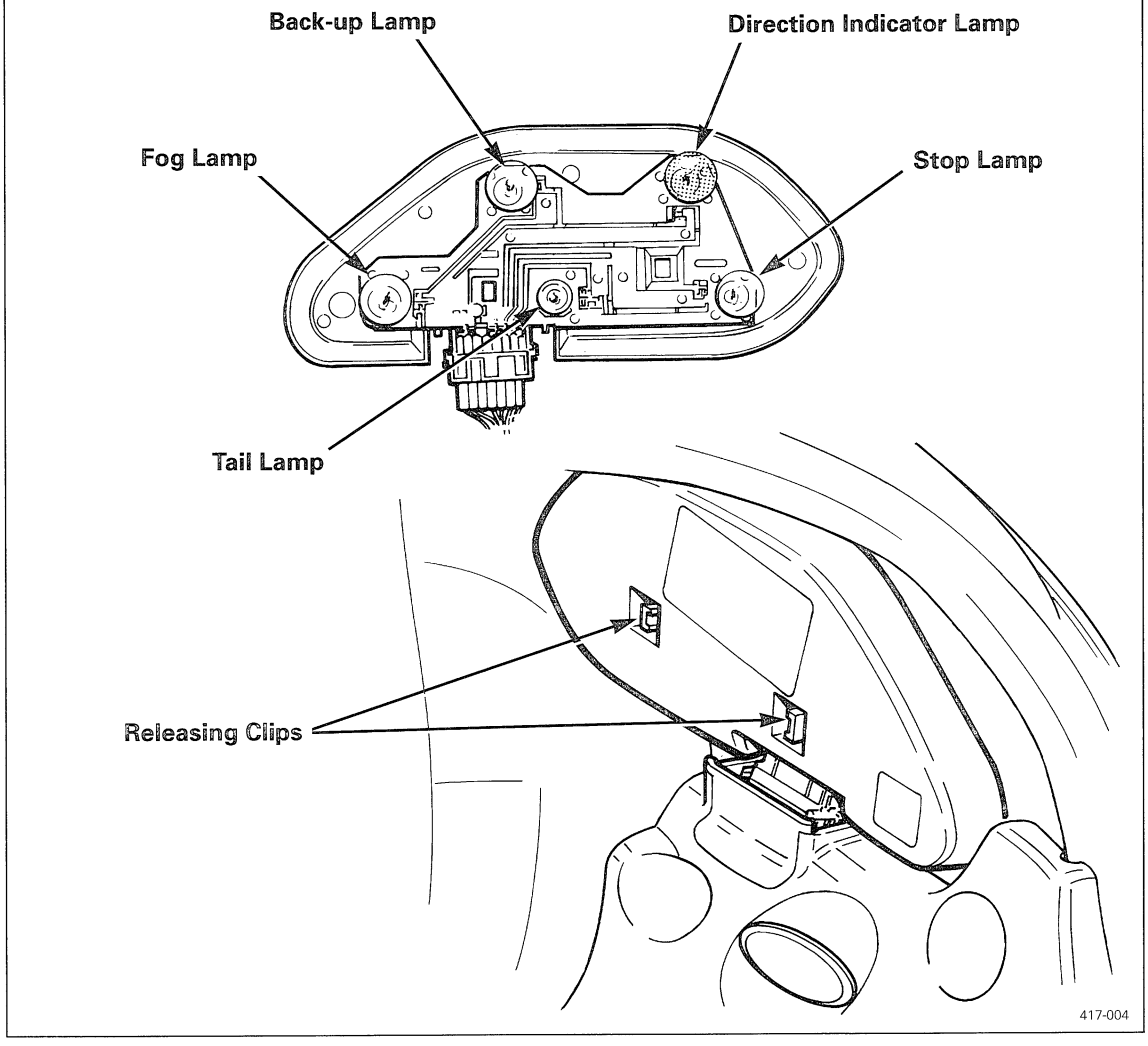
The upper part of the lens is clear and the lower part is red. The area of the lens over the tail lamp incorporates a reflector.

A bulb carrier, clipped on the housing, contains all the bulbs:

- P 21W back-up lamp bulb
- PY 21W turn indicator lamp bulb
- P 21W rear fog lamp bulb
- R 5W tail lamp bulb
- P 21W stop lamp bulb.

Access for bulb replacement is from within the trunk, by releasing a flap on the trunk seal retainer and removing the bulb carrier.

REAR LAMP CLUSTER



Side Marker Lamps

Side marker lamps, with reflective lenses, are installed in apertures in the outboard ends of the front and rear bumpers. Spring clips secure the lamps in the bumpers. Except for the color of the lens, all four lamps are identical. The lens of each front side marker lamp is amber and that of each rear side marker lamp is red.

Each lamp has a W 5W bulb installed in a bulb holder. Access for bulb replacement is through the panel in the wheel arch liner (front lamps) or from under the vehicle (rear lamps).

License Plate Lamps

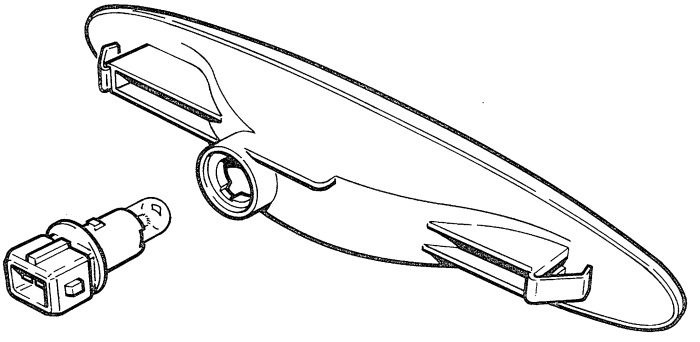
Two W 5W bulb holders are integrated into the trim above the rear license plate. A clear lens covers each bulb holder. To access a bulb, remove the lens using a flat bladed tool inserted in the slot on the left side of the lens.

HMSL

The HMSL is installed on the backlight (coupes) or trunk lid (convertibles) and consists of a lamp unit and a cover. Clips secure the cover to the lamp unit. On coupes, clips secure the lamp unit to the backlight. On convertibles, three nuts secure the lamp unit to the trunk lid.

Each lamp unit contains 16 non-replaceable LED wired to a single connector. The lamp unit must be replaced after failure of 1 LED maximum.

SIDE MARKER LAMP



417-009

Switches

Column Switch Assembly

The controls for the side lamps, headlamps and turn indicator lamps are on the left stalk of the column switch assembly. When operated, the controls produce ground inputs in the BPM, which then connects battery power, either directly or via relays, to the appropriate lamps.

Note: This explanation assumes operation of the tail lamps, license plate lamps and side marker lamps (where fitted) in conjunction with the side lamps and headlamps.

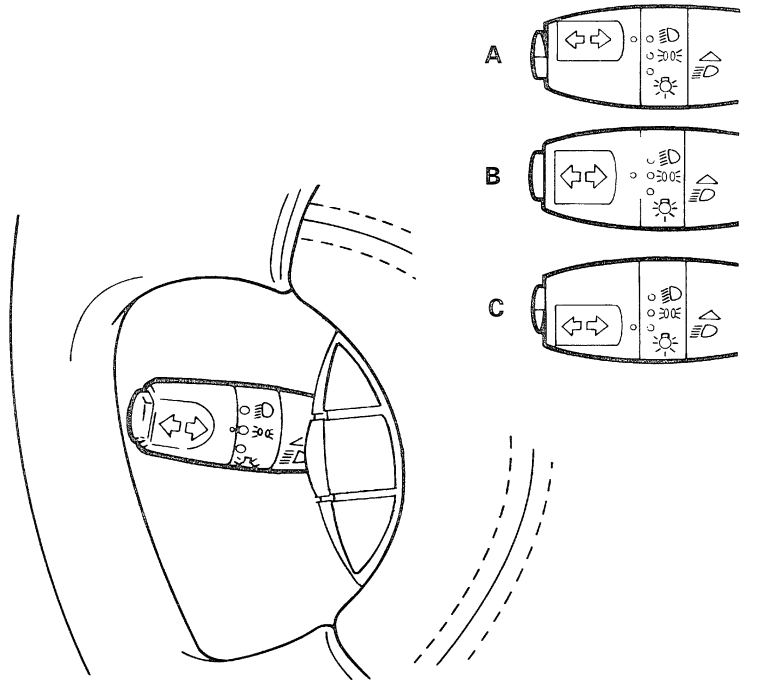
Selections on the side lamp and headlamp switches also cause the BPM to output the SCP - SIDE LAMP STATUS, SCP - LOW BEAM HEADLAMP STATUS and/or SCP - HIGH BEAM HEADLAMP STATUS messages to the major instrument cluster, to operate the `exterior lights on' and the `high beam' indicator lamps. The side lamps operate with the ignition on or off. The headlamps operate only while the ignition is on; if the ignition is switched off with the headlamps selected on, the headlamps go off but the side lamps remain on. On Canadian vehicles, with the rotary switch set to OFF, the side lamps and headlamps automatically come on with the ignition.

When a turn indication is selected, the BPM also operates the audible warning speaker on the column switch assembly (to produce the ticking sound) and, by outputting the SCP - TURN INDICATOR STATUS message, the related turn indicator lamp on the major instrument cluster. The turn indicators operate at 72 ± 5 cycles/minute. If the BPM detects a bulb failure, it operates the turn indicator lamp of the affected side on the major instrument cluster of the at twice the normal rate. Exterior indicators continue to flash at the normal rate.

Brake Switch

The brake switch is installed on the pedal box as on the 96MY Sedan. When the foot brake is applied, the switch connects a ground to the stop lamp relay. The stop lamp relay then energizes and connects battery power to the stop lamps. The stop lamps operate with the ignition on or off.

LIGHTING CONTROL SWITCH



A Off
B Sidelights On
C Headlights On

417-003

Hazard Warning Switch

The hazard warning switch is a non-latching push switch installed on the center console switchpack. When selected, the switch connects a ground to the BPM, which then operates all the turn indicator lamps, the audible warning speaker. It also outputs the SCP - HAZARD STATUS message to operate the two turn indicator lamps on the major instrument cluster.

Fog Lamp Switches

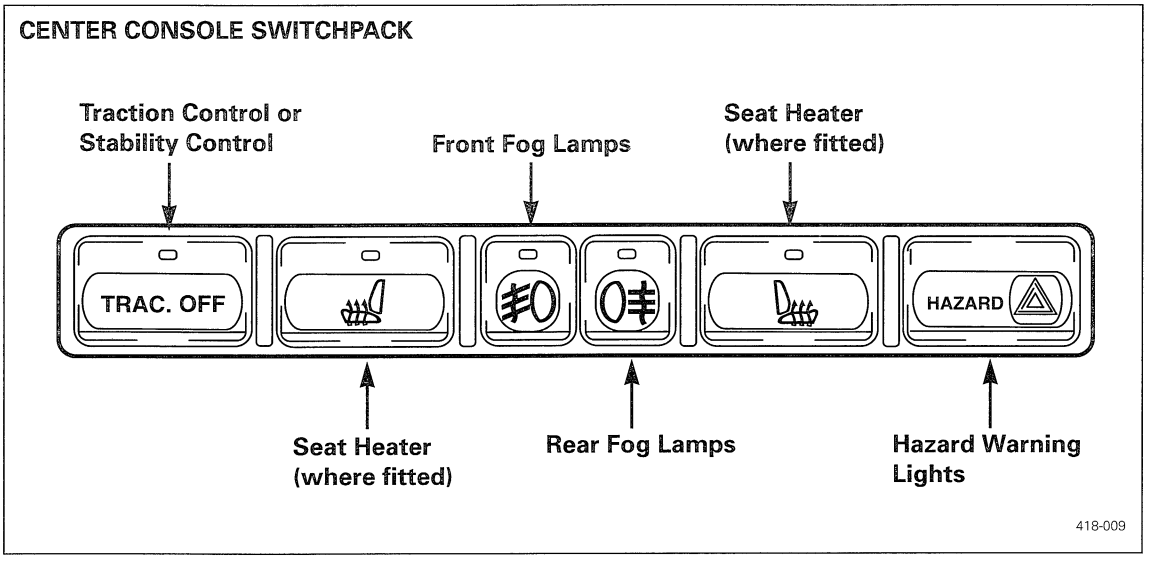
The front and rear fog lamp switches are non-latching push switches installed on the center console switchpack. When selected, each switch connects a ground to the BPM.

When the front fog lamps are selected, the BPM connects a ground to the switch and the front fog lamps relay, to energize the "lamps on" LED in the switch and supply battery power to the lamps.

When the rear fog lamps are selected, the BPM connects a ground to the switch to energize the "lamps on" LED. It also outputs a SCP - REAR FOG LAMP ON message to the SLM, which energizes the rear fog lamps relay to supply battery power to the lamps.

The front fog lamps operate only when the side lamps or headlamps are selected on, they automatically go off when the headlamps are set to high beam.

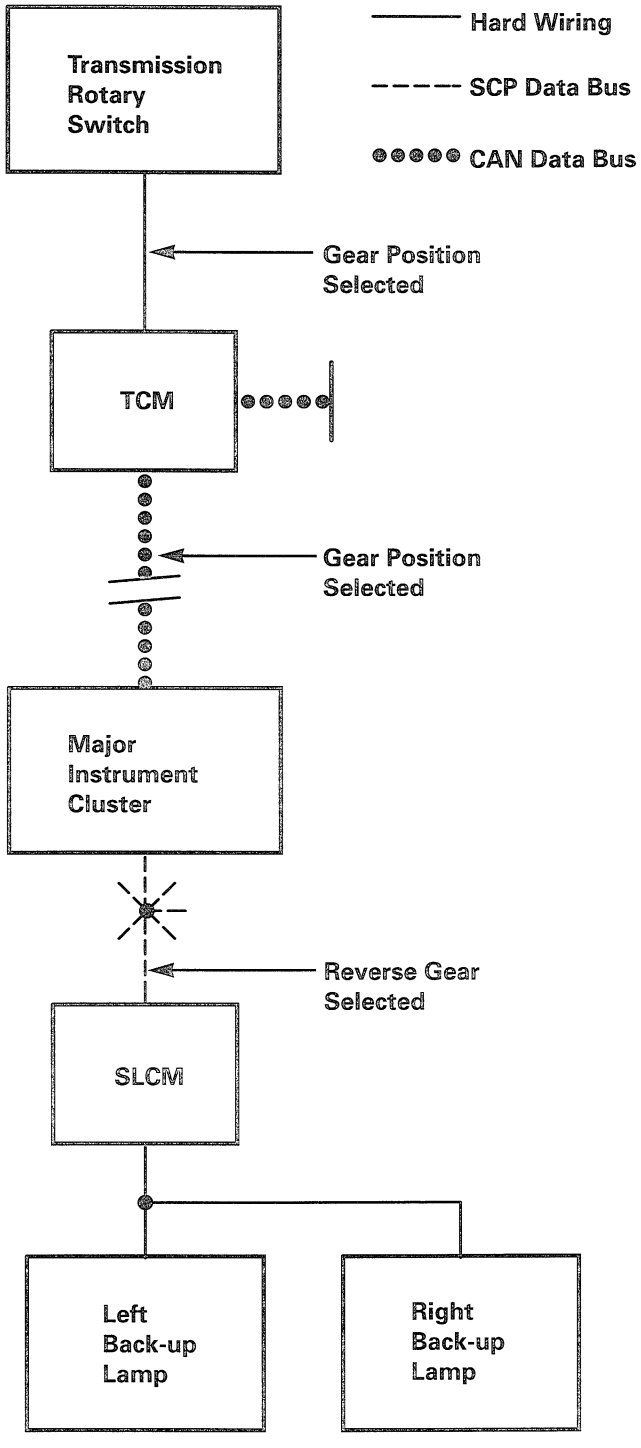
The rear fog lamps operate only when the headlamps, or the side lamps and front fog lamps, are selected on.



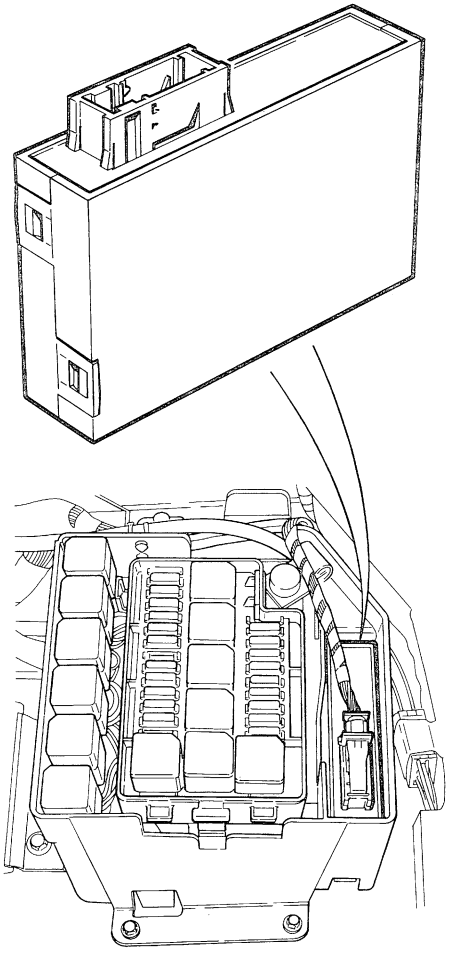
Lamp Control Module

The lamp control module is installed in the electrical carrier in the trunk. The module monitors the supplies to the tail lamps, stop lamps (not HMSL), license plate lamps and rear side marker lamps. If it detects a bulb failure, the lamp control module outputs a signal to the SLM. On receipt of the bulb failure signal, the SLM outputs a SCP - REAR BULB FAIL message to the major instrument cluster. The major instrument cluster then switches on the amber general warning lamp and shows the BULB FAIL REAR message on the driver information display.

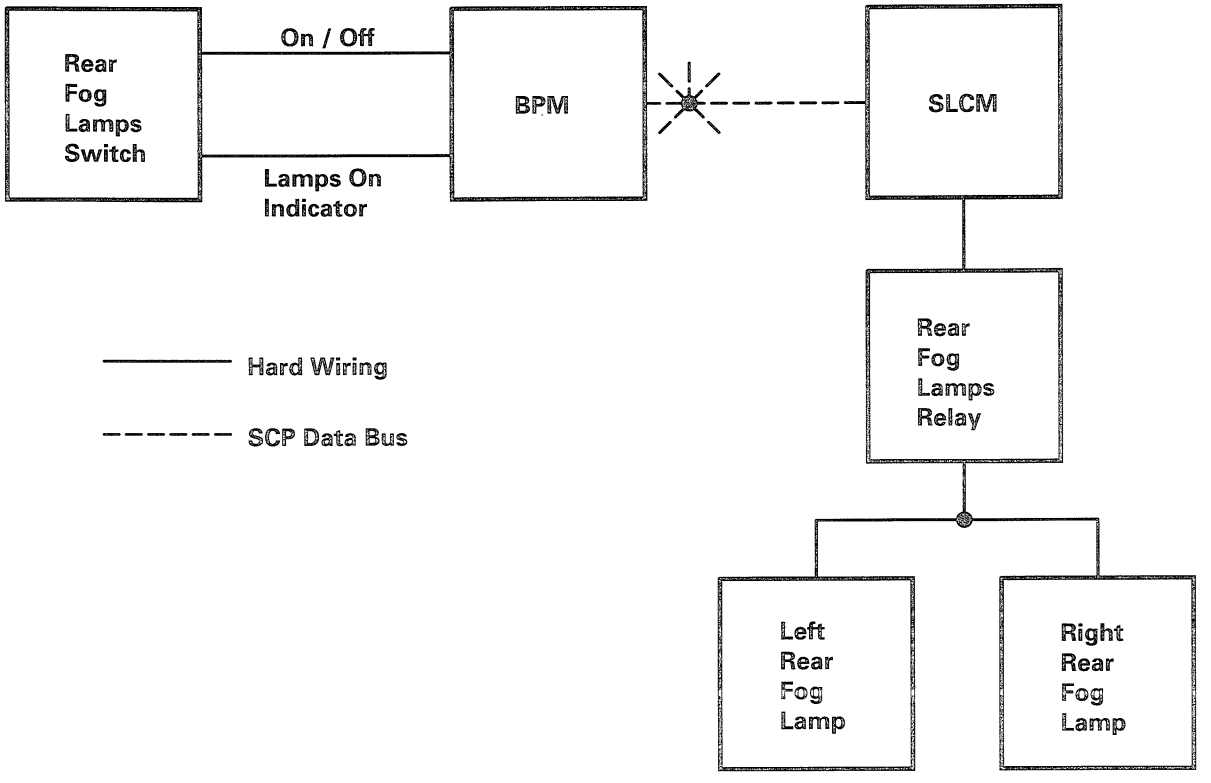
BACK-UP LAMPS CONTROL



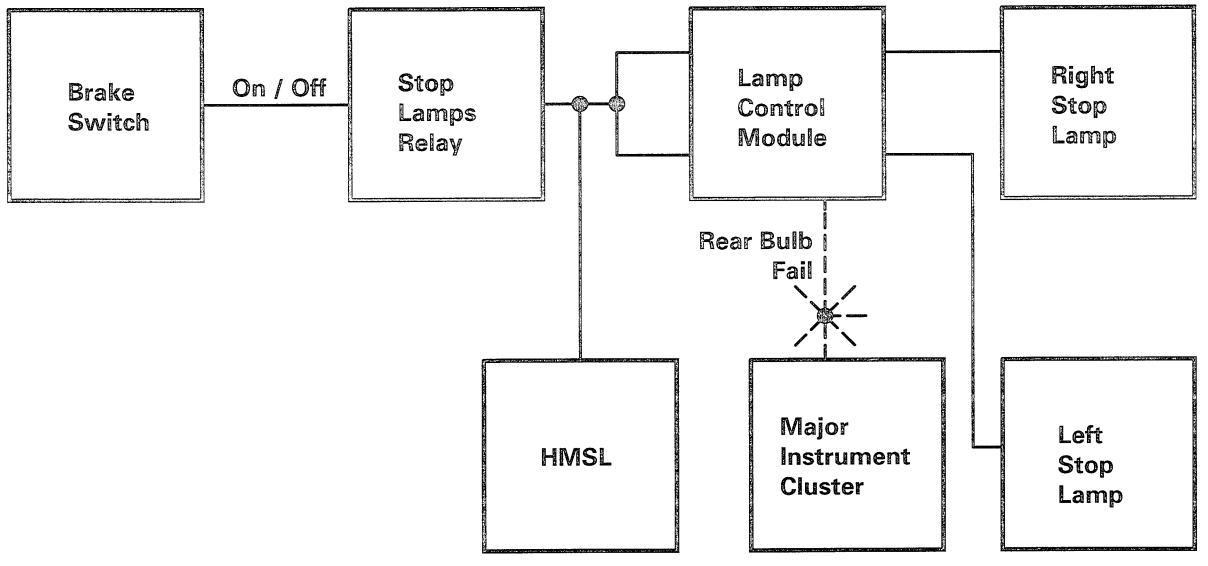
LAMP CONTROL MODULE



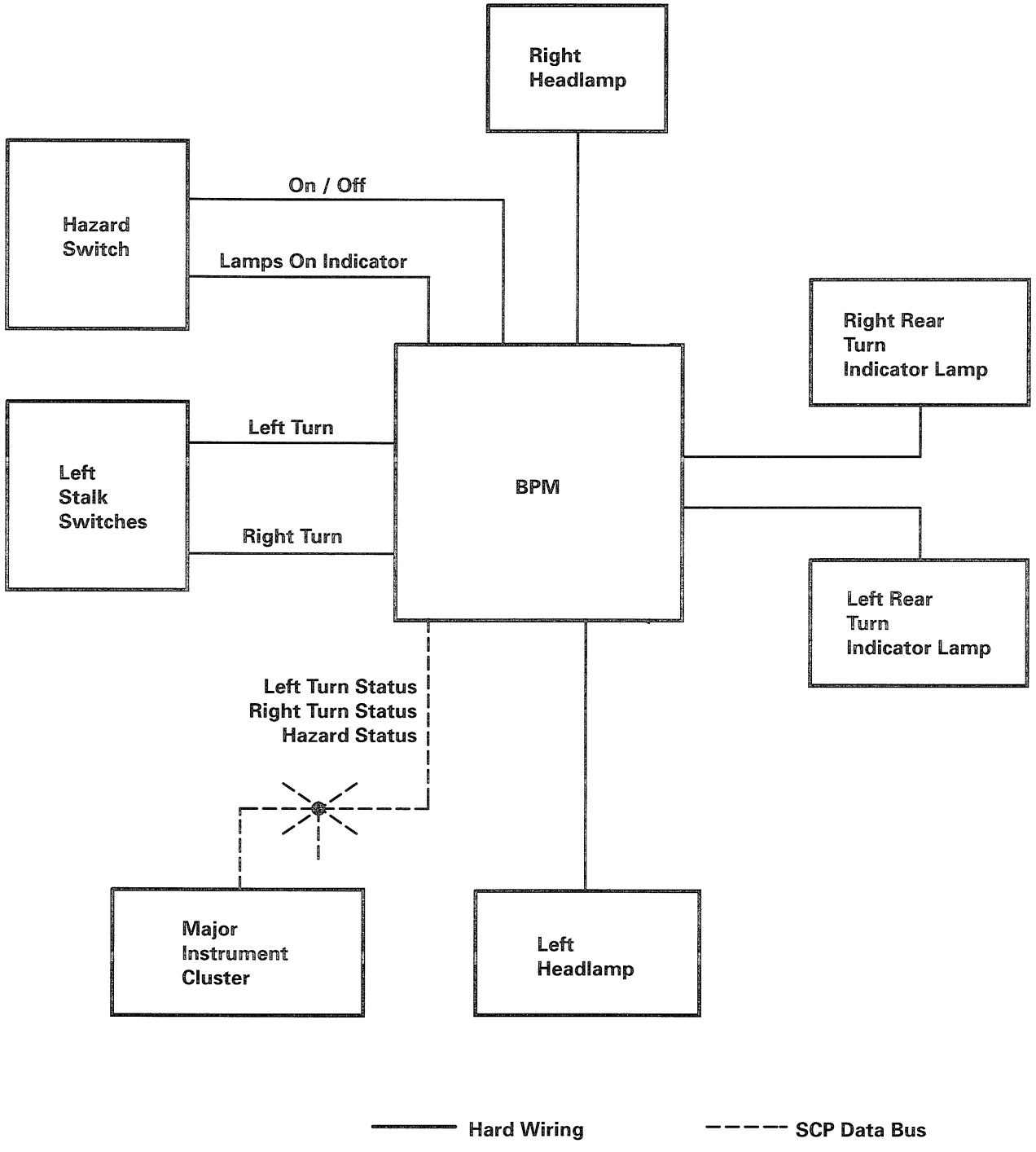
REAR FOG LAMPS CONTROL

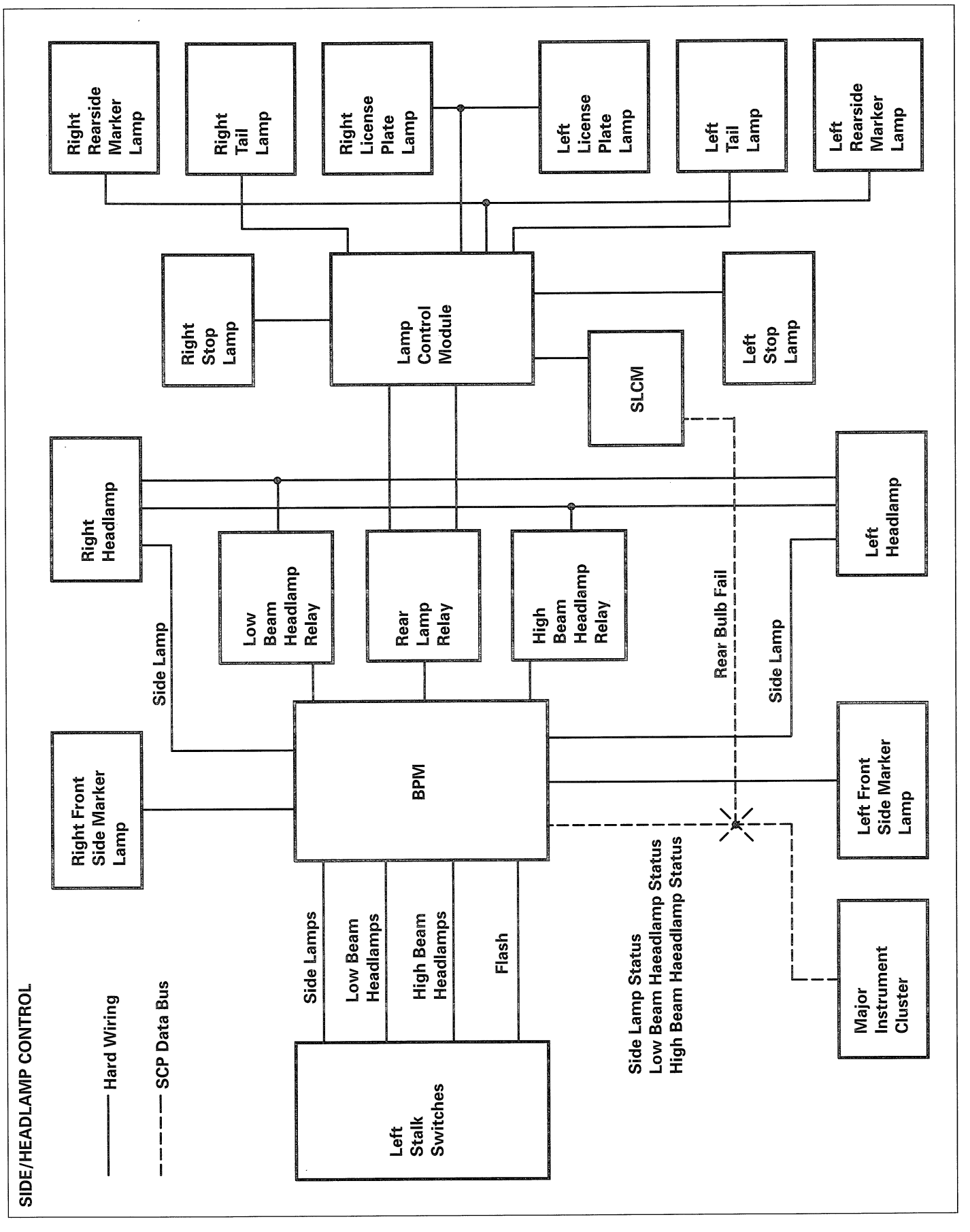


STOP LAMPS CONTROL



TURN INDICATOR LAMPS CONTROL




SIDE/HEADLAMP CONTROL
Hard Wiring
SCP Data Bus
Right Rearside Marker Lamp
Right Tail Lamp
Right License Plate Lamp
Left License Plate Lamp
Left Tail Lamp
Left Rearside Marker Lamp
Right Stop Lamp
Lamp Control Module
Left Stop Lamp
SLCM
Right Headlamp
Left Headlamp
Low Beam Headlamp Relay
Rear Lamp Relay
High Beam Headlamp Relay
Side Lamp
Rear Bulb Fail
Side Lamp
Right Front Side Marker Lamp
BPM
Left Front Side Marker Lamp
Side Lamps
Low Beam Headlamps
High Beam Headlamps
Flash
Side Lamp Status
Low Beam Haeadlamp Status
High Beam Haeadlamp Status
Left Stalk Switches
Major Instrument Cluster

Interior Lighting

Interior lighting is provided by the door guard lamps, footwell lamps, roof lamp (on coupe models only), trunk lamps, glove box lamp, vanity mirror lamps and map lamps. The DDCM, PDCM and BPM operate the lamps in response to control inputs from related switches.

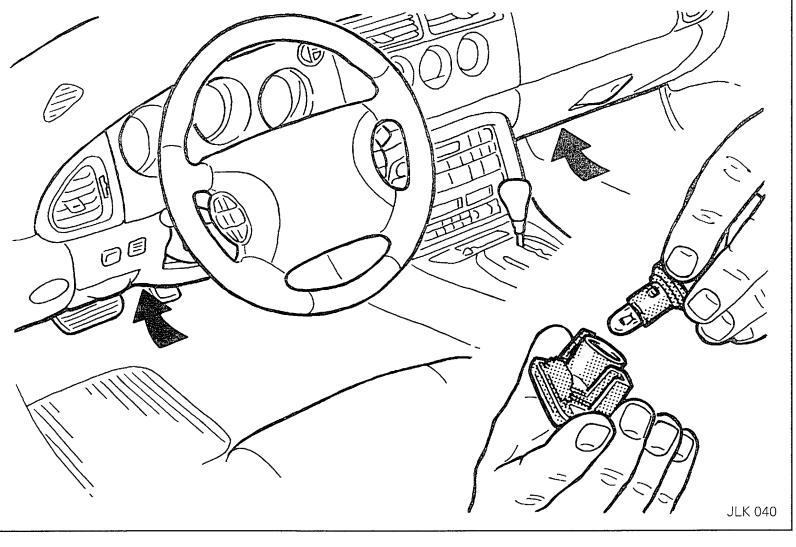
The door guard lamps, trunk lamps, glove box lamp and vanity mirror lamps operate automatically when their respective door/lid/cover opens or closes. To prevent battery drain from lamps being accidentally left on, when the ignition is off the door guard lamps go off after 5 ± 0.25 minutes if the door remains open; they remain on indefinitely when the ignition is at auxiliary or on. Similarly, after ignition off, the interior lighting supply to the trunk lamps, glove box lamp, vanity mirror lamps and map lamps is disabled approximately 15 minutes after the last detected SCP message (ie. approximately 17 minutes after ignition off); the supply is restored immediately the next SCP message is detected, eg. when a door unlocks.

The two map lamps have individual switches for manual control. They also operate automatically, in conjunction with the footwell lamps and the roof lamp, to provide the cabin courtesy lighting. All three types of courtesy lamp fade up when they come on and fade down when they go off. When the engine is running, the lamps come on when a door opens, then go off immediately the last door closes. When the key is removed from the ignition switch, the lamps come on for 15 ± 1 seconds. When the engine is not running, the lamps come on when a door opens, then go off:

- 15 ± 1 seconds after the last door closes
- after 2 ± 0.1 minutes, if the door remains open (when the door subsequently closes, they come on again for 15 ± 1 seconds)
- immediately, if the ignition switch is set to crank
- immediately the vehicle is locked, if the key is not in the ignition switch.

When the vehicle is unlocked the lamps come on at 75% brightness, then increase to maximum brightness when a door opens. If the doors remain closed after unlocking, the lamps go off after 2 ± 0.1 minutes.

FOOTWELL LAMPS



Door Guard Lamps

The door guard lamps are the same as used on the 96MY Sedan. The door switches, integrated into the door latching mechanisms, operate the lamps.

Footwell Lamps

The two footwell lamps are installed on the underside of the facia. Each lamp contains a 5W bulb, accessed by removing the lamp.

Trunk Lamps

A lamp is installed in each end of the trunk seal retainer. Each lamp contains a 5W bulb, accessed by removing the lamp. The trunk switch, integrated into the trunk latching mechanism, operates the lamps.

Roof Lamp (Coupe Only)

The roof lamp is installed in the center rear of the roof lining. It is the same as the trunk lamps.

Glove Box Lamp

The glove box lamp consists of a lens, in the left side of the glove box liner, and a combined switch/bulb holder installed behind the lens. The 4W bulb is accessed by removing the switch/bulb holder.

Vanity Mirror Lamps

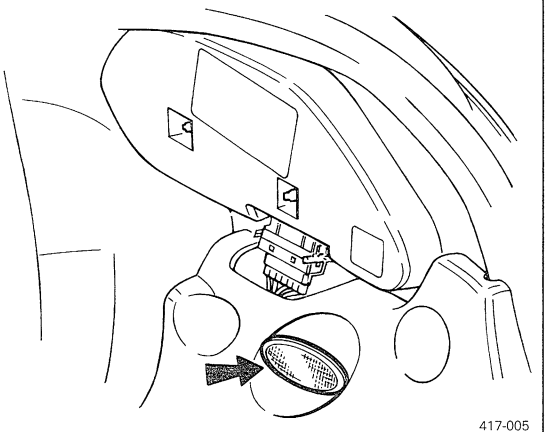
The vanity mirror lamps on each sun visor are similar to that on the 96MY Sedan. However, the electrical supply for the two 3W bulbs is routed through the sun visor's stowage clip instead of the pivot of the support arm. For the lamps to operate the sun visor must be engaged in the stowage clip.

Map Lamps

The two map lamps are installed in the roof console. The lamps function as map reading lamps and as courtesy lamps. Individual push switches control the map lamp function. The door switches and the ignition switch control the courtesy lamp function.

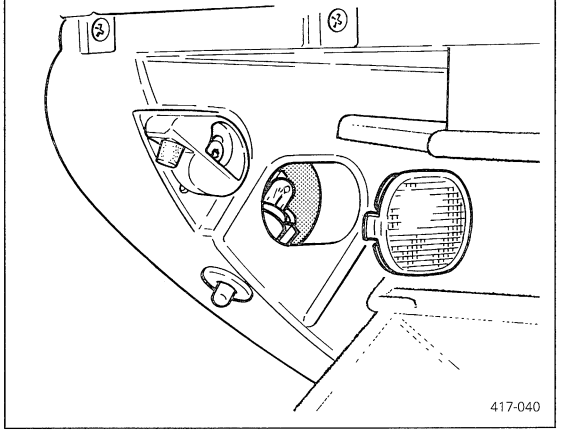
Each lamp has a bulb holder with a 6W bulb. The bulbs are accessed by removing the console.

TRUNK LAMPS



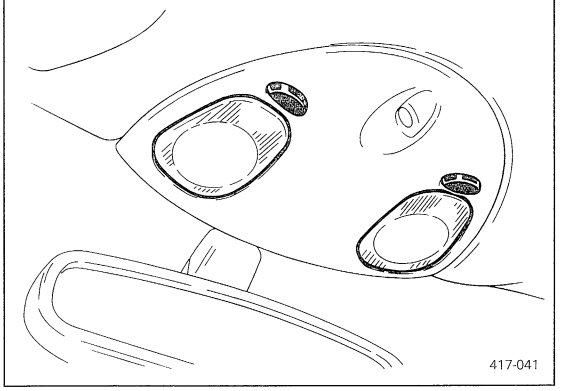
417-005

GLOVEBOX LAMP



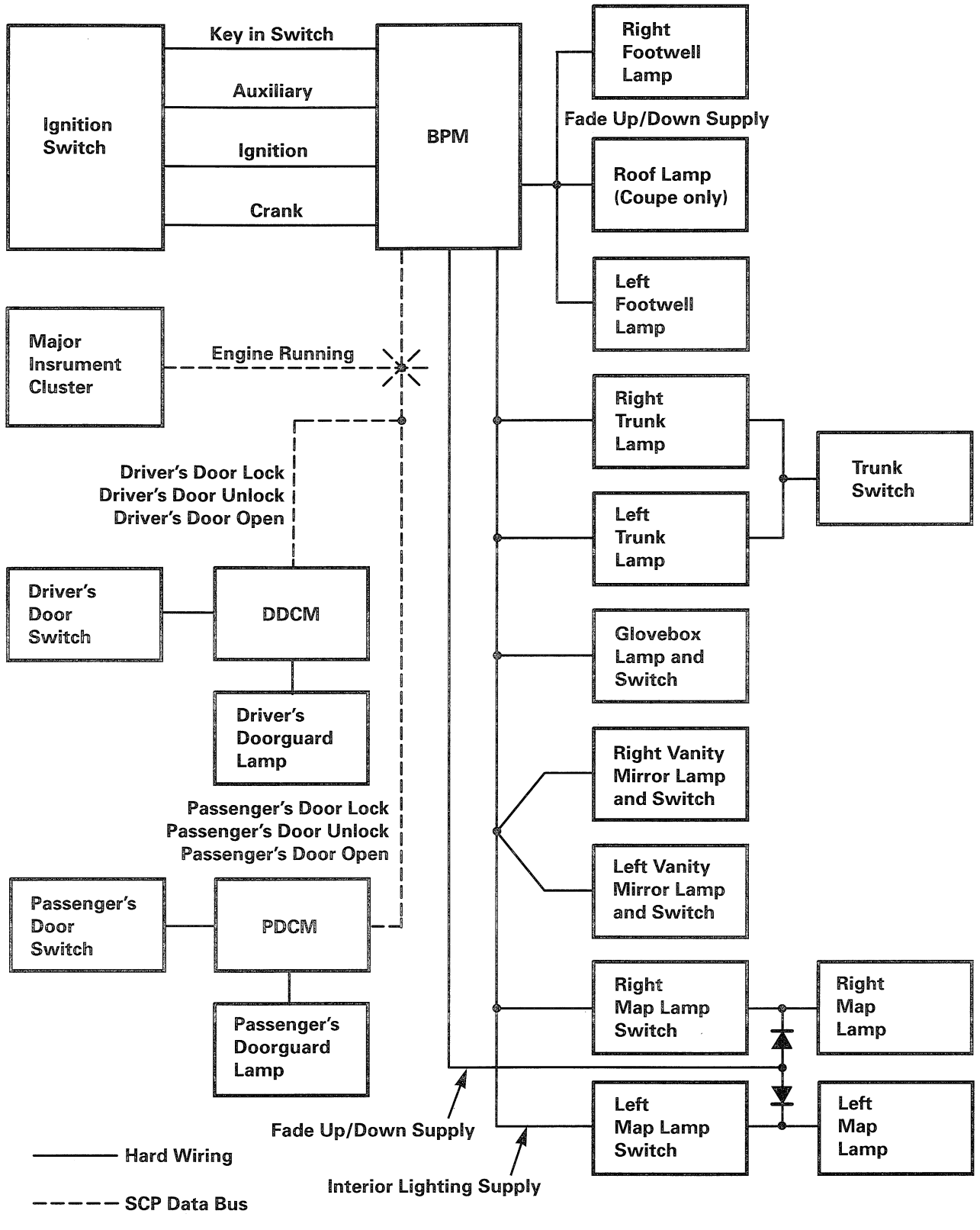
417-040

MAP LAMPS



417-041

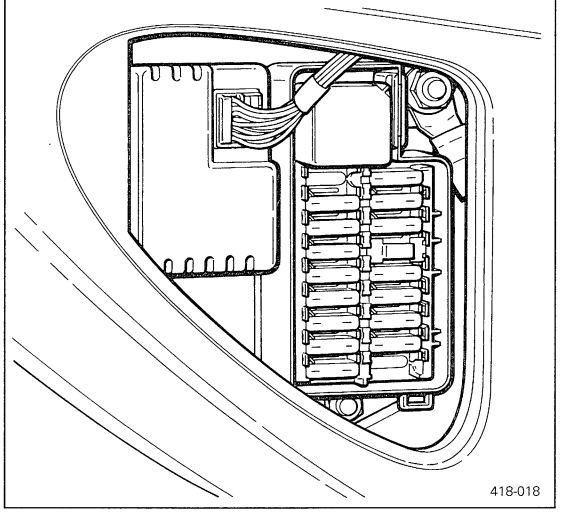
INTERIOR LIGHTING CONTROL



Instrument/Switch Lighting

The intensity of the background lighting in the instruments and switches is controlled by the rotary dimmer switch on the steering column, via the dimmer control module behind the right end panel of the fascia.

DIMMER CONTROL MODULE



Instrumentation

Vehicle instrumentation is installed in the minor and major instrument clusters on the fascia. The calibration of the odometer and speedometer, the language of the message center and the composition of the indicator lamps are tailored to suit the destination market.

All of the inputs and outputs of the minor instrument cluster are routed through the major instrument cluster. The major instrument cluster provides the interface with the vehicle wiring.

The major instrument cluster is connected to both the CAN and the SCP network, and provides the interface for the transfer of messages between the two.

A microprocessor, in the major instrument cluster, controls the gauges and indicator lamps of both clusters, and the message center. To ensure correct operation of it's gauges, after disconnection the minor instrument cluster should always be connected to the major instrument cluster before the fascia harness is connected, or before the battery is connected.

The microprocessor also incorporates two trip computers, designated A and B. Switches on the fascia, and the push-button switch on the end of the left stalk of the steering column switch assembly, control the operation of the trip computers.

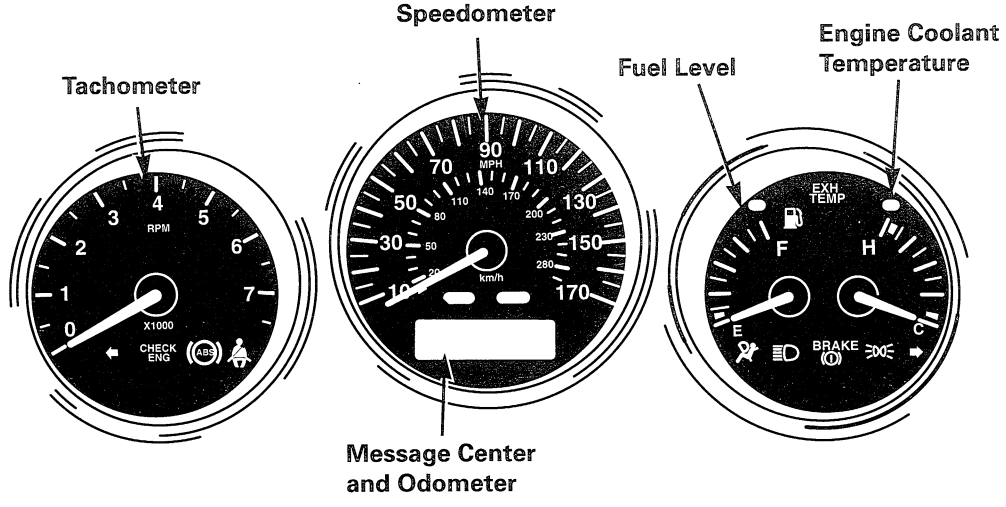
Indicator Lamps

The indicator lamps are color coded in the conventional manner: red for warning; amber for caution; blue and green for status. The majority of the lamps are arranged along the bottom of the tachometer and the fuel contents/engine coolant temperature gauges. Additional lamps are positioned in the fuel contents gauge (to draw attention to a low fuel state) and the engine coolant temperature, engine oil pressure and battery voltage gauges (to draw attention to an out of limit condition). Two general warning indicator lamps above the message center draw attention to some categories of driver information messages, and indicate their importance.

A lamp check is performed each time the ignition is switched on. All of the indicator lamps come on for 3 to 4 seconds and SYSTEM CHECK is shown on the message center.

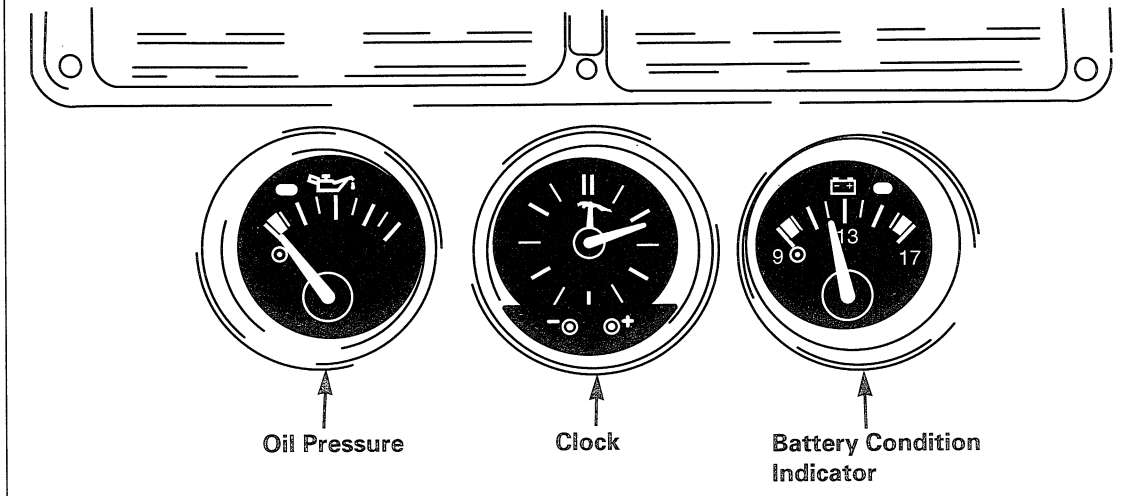
Only background illumination bulbs, turn indicator lamp bulbs and the headlamp high beam indicator lamp bulb are replaceable (with the aid of a service tool). The side lamps/headlamps ON indicator lamp bulb is inaccessible. Each of the other indicator lamps is powered by a LED.

MAJOR INSTRUMENT CLUSTER



JWK 007

MINOR INSTRUMENT CLUSTER



Message Center

The message center is a LCD of two rows of 12 characters. It displays the odometer reading, trip computer data and driver information messages.

The language used on the message center can be changed using the trip computer switches on the fascia:

- pressing and holding the ml km switch while the ignition is switched on displays the current language selection on the message center
- further presses of the ml km switch cycle the languages available
- when the language required is displayed, a press of the A/B switch causes the displayed language to be adopted for the message center, after a delay of 2 seconds
- pressing the CLEAR switch, or starting the engine, returns the odometer reading to the message center.

Odometer Reading

The six digit odometer reading is automatically displayed at ignition on, after the lamp check, provided there are no driver information messages. It is also displayed when the ignition is off if the side lamps or interior courtesy lamps are on.

Trip Computers

Pressing the cycle switch on the left stalk of the steering column switch assembly activates the trip computers to display data on the message center. The first press of the switch replaces the odometer reading with the distance travelled output of the currently selected trip computer. Further presses of the switch cycle the trip computer outputs and the odometer reading in the sequence: distance travelled; range; fuel used; average fuel consumption; instantaneous fuel consumption; average speed; odometer reading. With the exception of range and instantaneous fuel consumption, the designation of the currently selected trip computer, A: or B:, prefixes each output.

The trip computer switches on the fascia are enabled only while a trip computer output is displayed on the message center:

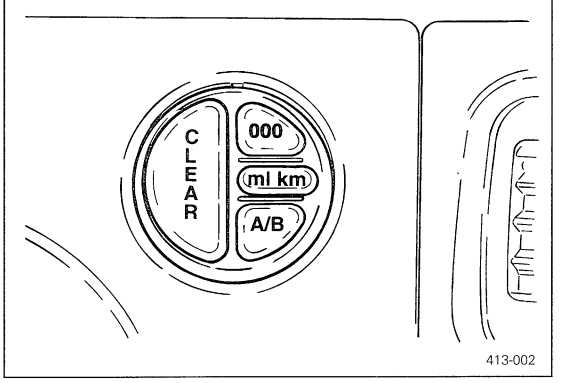
- pressing and holding the 000 switch for 3 seconds resets the stored data of the active trip computer to zero
- the ml km switch toggles the trip computer outputs between metric and USA units of measure (at each ignition on, the trip computers default to the market setting)
- the A/B switch toggles between the two trip computers.

If a trip computer is activated while a driver information message is being displayed, the trip computer output is displayed for 10 seconds, then replaced by the driver information message.
If a driver information message replaces a trip computer output on the message center, pressing the cycle switch restores the trip computer output to the message center for 10 seconds, before the message replaces it again.

Driver Information Messages

When a driver information message becomes active, it automatically replaces the odometer reading or trip computer output currently on the message center.
When more than one message is active at the same time, the messages are displayed in order of priority. The messages are cycled at a rate of one message every two seconds.
Pressing the CLEAR switch clears the message currently on the message center. When all of the messages are cleared, the message center reverts to the odometer reading/trip computer output. A further press of the CLEAR switch reveals all of the active messages again, starting with the message with the highest priority. At each ignition on, the message center displays all remaining active messages, even if they were cleared at the time of the previous ignition off.

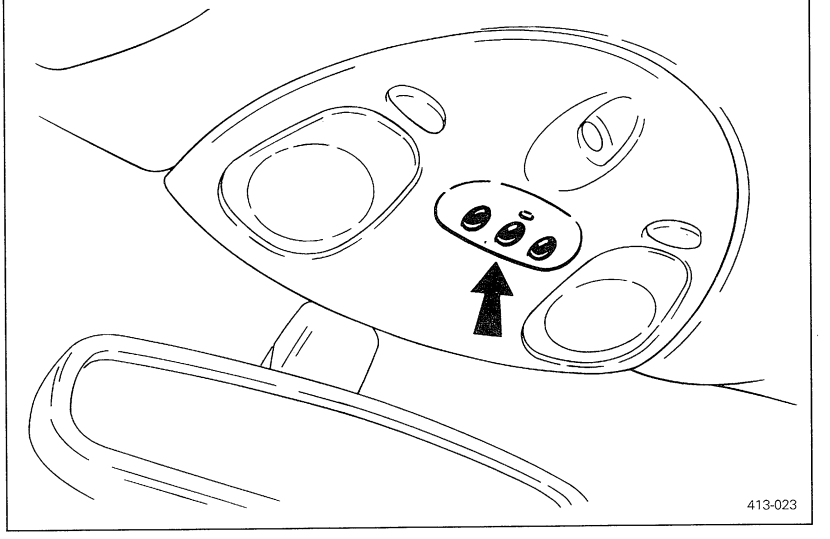
TRIP COMPUTER SWITCHES



Garage Door Opener

The garage door opener activates up to three proprietary garage door opening transmitters from switches in the roof console. The control module, installed in the roof console, scans transmitted signals within the 286 to 400 Mhz range and stores them in a non volatile memory. Instructions on how to programme the garage door opener to emulate transmitter signals are given in the Owner's Handbook.

GARAGE DOOR OPENER



413-023

Security Systems

Introduction

The following security features are available but vary with markets/options:

- Perimeter sensing of doors, hood and trunk
- Inclination sensing (Dealer option)
- Panic alarm (Dealer option)
- Passive arming (Dealer option)
- Audible warnings
- Security LED in gear selector surround
- Drive away door locking
- Key and remote transmitter locking/unlocking
- Remote headlamp convenience
- Remote trunk open

Enhancements/Changes from X300 95MY:

- Security LED located in the gear selector surround
- Inclination sensing (dealer option)

Component/Module Locations

The security and locking systems involve the SLCM, BPM, DDCM and PDCM all connected via the SCP Network.

The SLCM is located in the electrical carrier below the fusebox, in the trunk. The BPM is mounted off the passenger airbag bracket, behind and above the glove box. DDCM and PDCM are located in the doors.

The security sounder, where fitted, is located in the right-hand fender, forward of the wheel arch.

Optional equipment is an inclination sensor mounted in the trunk, off the right-hand wheel arch.

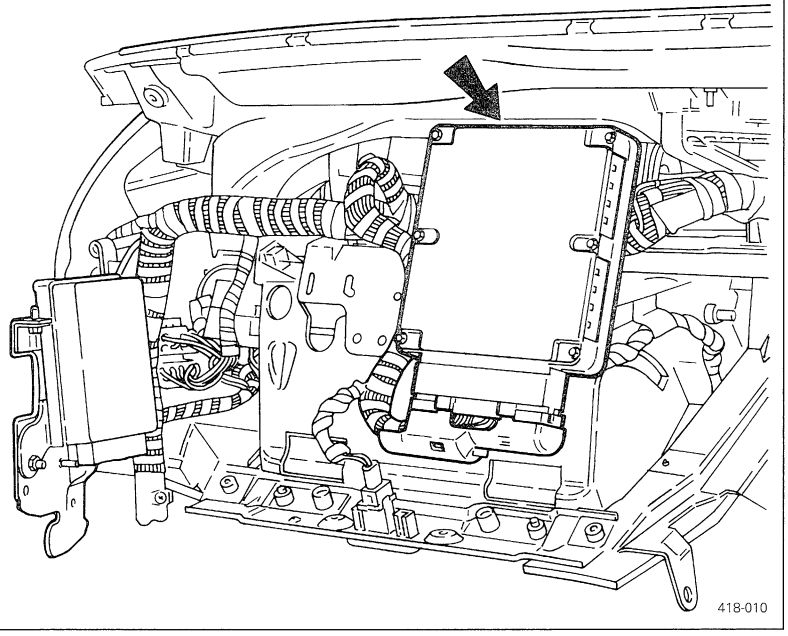
An inertia switch is located in the left-hand fascia fuse compartment and when activated unlocks the doors.

The in-car audible warning speaker is located in the column underscuttle.

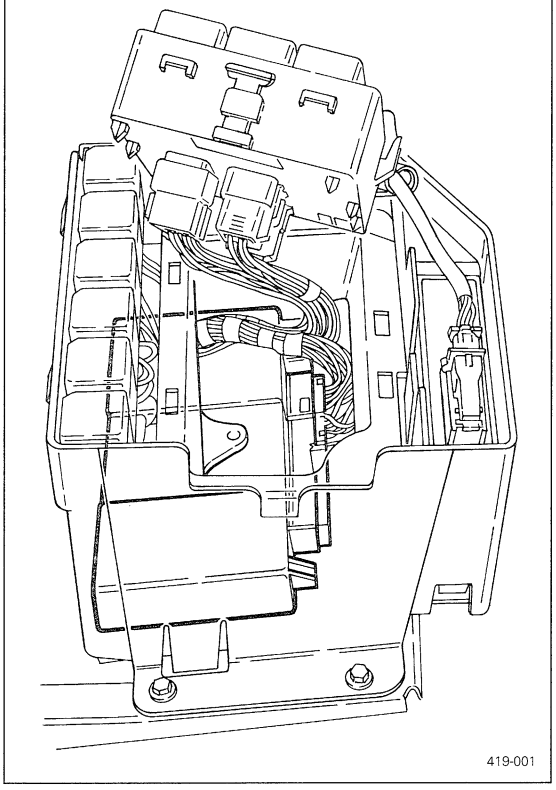
All vehicle modules are pre-programmed during build.

With the transit relay fitted Security cannot be armed during transit and the car must be mechanically locked. The SLCM controls all convertible top movement operations.

BPM



SLCM



Locking System

The Tibbe locksets and single key system are as fitted to the 95MY sedan. Only the drivers door has a key barrel, fitted in a carryover 95MY sedan driver's door handle. The key operates the driver's door, trunk lid and ignition. There is a second (green headed) key for valet parking/service for door and ignition only, not for unlocking the trunk or glove box. Locking functionality covers central locking of the doors, superlocking, remote/superlocking and valet mode. Door locking is a function of the DDCM and PDCM. The SLCM controls the fuel filler flap and trunk lid release actuators. It also monitors the remote key-ring transmitter trunk activity and requests a trunk release command from the BPM. The inertia switch will activate and unlock both doors in the event of a vehicle impact.

Key Operation

Note: The security system will not arm if the key is in the ignition switch or if either of the doors, hood or the trunk lid is open.

The driver's key or key-ring transmitter centrally locks/unlocks the doors and trunk. All vehicles have a two-stage unlock system from the remote transmitter. The first stage action unlocks only the driver's door and the second stage unlocks the passenger door.

When a key is held in the lock or unlock position for more than 1.5 seconds, the SLCM operates the global locking/unlocking function. This locks both doors, closes the windows and closes the convertible top if it is open. Ensure that the convertible top cover is removed prior to closing the top. It also sets the alarm. One signal will be heard and the direction indicators will flash once whilst locking and arming occur.

Unlocking of the car is achieved by turning the key towards the rear of the vehicle and releasing. This centrally unlocks the doors, trunk, fuel filler flap and disarms the alarm system and turns on the interior lights for 15 seconds. Two signals will be heard and the direction indicators will flash twice whilst unlocking and disarming takes place. Holding the key in the unlock position will open all windows and convertible top. The key must be held for the duration of the convertible top movement to its open or closed position.

Drive-away Door Locking

A drive-away door locking feature is fitted.

This facility locks both doors, if they are unlocked, when the gear selector is moved from the Park or Neutral positions with the key in the ignition switch at position II and both doors are closed. Operation of a door interior handle will unlock both doors.

Key-ring Transmitter

A four-button, rolling code, key-ring transmitter gives remote control of the system.

Two key-ring transmitters are supplied with each vehicle.

Button functions are as follows:

1 **Locks and arms the vehicle.**
One press will lock both doors and the trunk and will set the alarm system. One signal will be heard and the direction indicators will flash once. The LED in the gear selector surround will continually flash whilst the vehicle is armed.

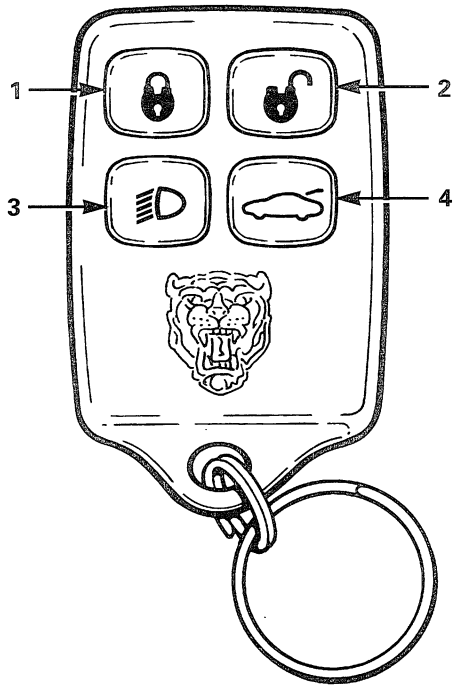
2 **Unlocks and disarms the vehicle.**
If the car is in a locked state, at the first press of the button the driver's door only unlocks and the interior lights fade on. A second press unlocks the passenger door.

3 **Switches on the headlamps and starts the panic alarm.**
One press switches on the dipped headlamps which remain on for 25 seconds or until the button is pressed a second time or until the key is inserted in the ignition switch. Three presses within three seconds starts the panic alarm. The alarm will sound for the full period and can only be stopped by inserting the key into the ignition and turning to positions I or II.
The transmitter cannot be used to cancel the panic alarm.

4 **Releases the trunk lock.**
One press releases the trunk lock, without disarming the system.

The key-ring transmitter will only work if the vehicle's doors, hood and trunk are closed and the key is not in the ignition. Dealers are required to obtain proof of ownership before issuing a replacement transmitter. Batteries for the transmitter are CR 2016.

KEY-RING TRANSMITTER



1 Locks and arms the vehicle
2 Unlocks and disarms the vehicle
3 Switches on the headlamps and starts the panic alarm
4 Release the trunk lock

419-002

Glovebox

A two-position, key operated lock is fitted to the glovebox.

Valet Switch

The switch is a carryover unit from the 95MY sedan car and is located in the driver's knee bolster, outboard side. This isolates the trunk lock from central locking. Unlocking the trunk with the driver's key or by key-ring transmitter overrides and clears the valet function.

The green valet key is used in the same manner as the 95MY sedan.

Trunk

The trunk lid lock can be opened by the interior switch if the valet mode is inactive, the security is disarmed, the vehicle is not moving and unlocked. The trunk lid lock can also be released by the drivers key but the alarm will sound if it is armed. Opening the trunk with the driver's key is by pushing the key into the orifice in the body at the XK8 badge.

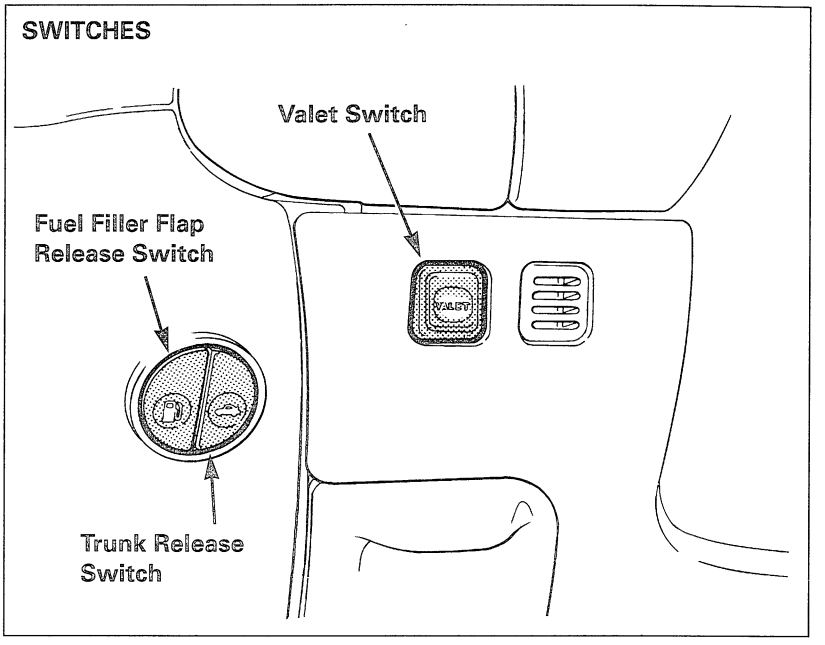
Using the key-ring transmitter to open the trunk will not activate the vehicle security alarm if the system is armed.

The trunk must be closed to activate the valet mode. When the valet switch is pressed and the trunk is closed an audible warning will sound.

When in valet mode and the interior trunk release is pressed the valet mode warning will sound and a visual warning will be displayed on the message center.

Fuel Filler Flap

The fuel filler flap can only be released if the engine is not running, the security is disarmed and the car is either unlocked or the key is in the ignition switch. The flap release is not part of the central locking system and can only be released by using the interior switch. In emergency, manual release of the flap is possible by removing the trunk trim and pulling the release handle.



Security System

Full Alarm

Once armed any of the following circumstances will create a full alarm state and the sounder will operate:

- Opening a door (after seven seconds)
- Opening the trunk with the key (after seven seconds)
- If the ignition key is turned to position I or II
- Lifting or tilting the vehicle (if an inclination sensor is fitted)
- Pressing the key-ring transmitter headlamp button three times - Panic Alarm
- Opening the hood

Error tone

The sounder gives a short, high-pitched warble whenever one of the following conditions is present:

- The trunk is not closed when an attempt is made to arm the security system
- The key is in the ignition switch when a transmitter button is pressed
- If there is a failure within the alarm system the error tone will sound when the vehicle is disarmed
- If any door is open when an attempt to arm the security system is made.

Audible Signals
An audible alarm will sound when:

- The Valet switch is pressed with the trunk closed, signifying that valet mode is active.
- In Valet mode and the interior trunk release switch is pressed.
- The key is in the ignition switch when a transmitter button is pressed
- Opening a door when security is armed (door unlock warning and audible ticking)

Active Arming of the Security System
Active arming, arm on central lock and key barrel arm are programmable features. If doors, hood, or trunk are closed, the key is not in the ignition and active arming is enabled, the security system can be armed by either the key barrel or remote transmitter. Arming will be prevented if door, hood or trunk lid are open and/or the key is in the ignition - an error tone will sound.

Arming When Centrally Locked
The vehicle will arm when it is centrally locked via the remote transmitter or from the key barrel. If a door, hood or the trunk lid is open an error tone is emitted.
On arming, the direction indicators give a short flash and a single audible chirp will be emitted. The status LED in the gear selector surround will illuminate and then flash to indicate perimeter sensing.

Active Disarming of the Security System
The security system will be disarmed and the alarm stopped if the remote transmitter is used or if the key is turned in the door lock.

Arming and Disarming from the Key Barrel
To arm, the key is turned to the unlocked position and then to the locked position within 3 seconds. To disarm, the key is turned to the unlock position.

Passive Arming/Disarming of the Security System
Passive arming will occur after 30 seconds has elapsed with all doors, hood and trunk closed and the key out of the ignition. To disarm, either the remote transmitter unlock button or the ignition key will be used.

Perimeter Sensing
If the system is armed, an alarm will be tripped when a door, the trunk lid or the hood becomes open or if the ignition key is turned to position I or II.

Battery Tampering Alarm and Restart Procedure
If the battery is disconnected when the security system is armed, disarmed or in the full alarm state, the security system will automatically resume the vehicle state before disconnection when the battery is reconnected.

Security Antenna
For the coupe model the security antenna is incorporated into the backlight. The convertible security antenna is located in the right-hand side quarter casing. Both are hardwired to the SLM.

Diagnostics
For the Multiplexed body system modules, the diagnostics is over the SCP network and requires new diagnostic tools. Extensive DTC logging has been included. Diagnostics can monitor the SCP bus and module input/output activity during normal operation.

In-car Entertainment

The vehicle contains either a base or premium entertainment system. The premium system uses the same radio and antenna as the base system, but includes a power amplifier and different speakers. The premium also includes the CD autochanger as standard (optional with the base system). Both systems have switches on the steering wheel for remote operation.

Radio

The radio is the same as that installed in the XJ Sedan, with audio equalisation revised to suit the XK8. The features and operation remain the same.

Antenna

The electric rod antenna is the same as installed in the XJ Sedan, but with a revised mounting bracket. The antenna is installed in the right rear fender.

Power Amplifier

The power amplifier is a 240 Watts, 8 channel unit installed above the CD autochanger in the trunk. Audio equalisation is unique to each model.

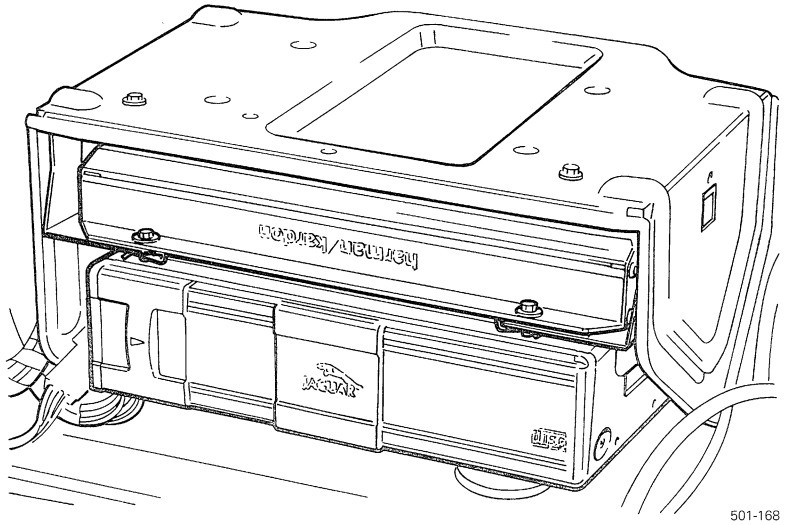
Speakers

With the base system, the same speaker configuration is used in both the coupe and the convertible. With the premium system, the speaker configuration is unique for each model.

Speaker configuration

Location	Qty	Base System	Premium System (Coupe)	Premium System (Convertible)
Fascia	2	-	65mm (2.5in) mid range	65mm (2.5in) mid range
Door mirror cheater	2	-	10mm (0.375in) tweeter	10mm (0.375in) tweeter
Door	2	160mm (6.25in) triple cone	160mm (6.25in) mid base	160mm (6.25in) mid base
Rear quarter	2	160mm (6.25in) triple cone	160mm (6.25in) mid base	160mm (6.25in) long throw sub-woofer
	2	-	-	65mm (2.5in) mid range
Parcel shelf	1	-	200mm (8in) long throw sub-woofer	-

POWER AMPLIFIER AND CD AUTOCHANGER

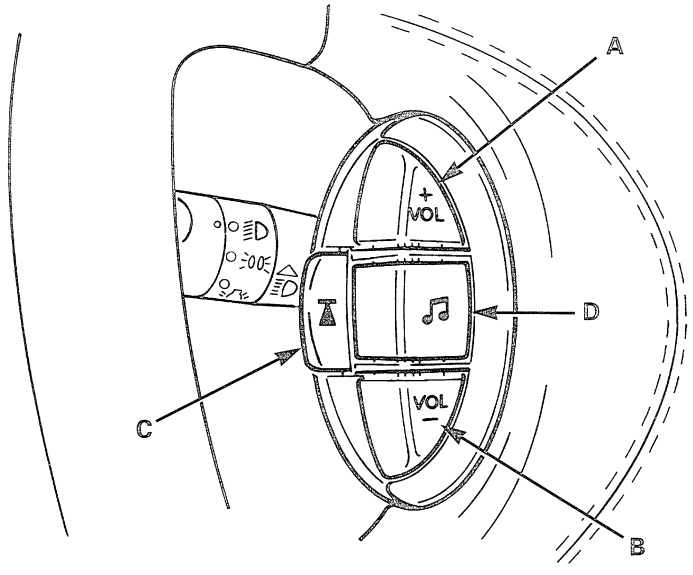


501-168

CD Autochanger

The CD autochanger is the same unit as used in the XJ Sedan and the XJS. It is installed on the right side of the trunk, behind the trim. An opening in the trim provides access for loading/unloading the CD cassette.

STEERING WHEEL SWITCHES



A Press to increase volume
B Press to decrease volume
C Press to cycle through the six Preset radio stations or CD's
D Press to cycle through Radio FM, AM, Cassette or CD's

211-044

Steering Wheel Switches

The VOL+ (A) and VOL- (B) switches control the volume. The switch (C) cycles the radio AM, radio FM, cassette player and CD player functions. The switch (D) cycles the preset radio stations, the tracks of the cassette tape, or the CD selection, as appropriate to the function selected on the switch (C).

Seat Belts

Front Seat Belts

WARNINGS:

1. If a pre-tensioning unit is ruptured without deployment and exposure to the propellant by ingestion or inhalation occurs, apply first aid and then seek medical advice.

2. Never attempt to dismantle an undeployed retractor unit, it has no serviceable parts.

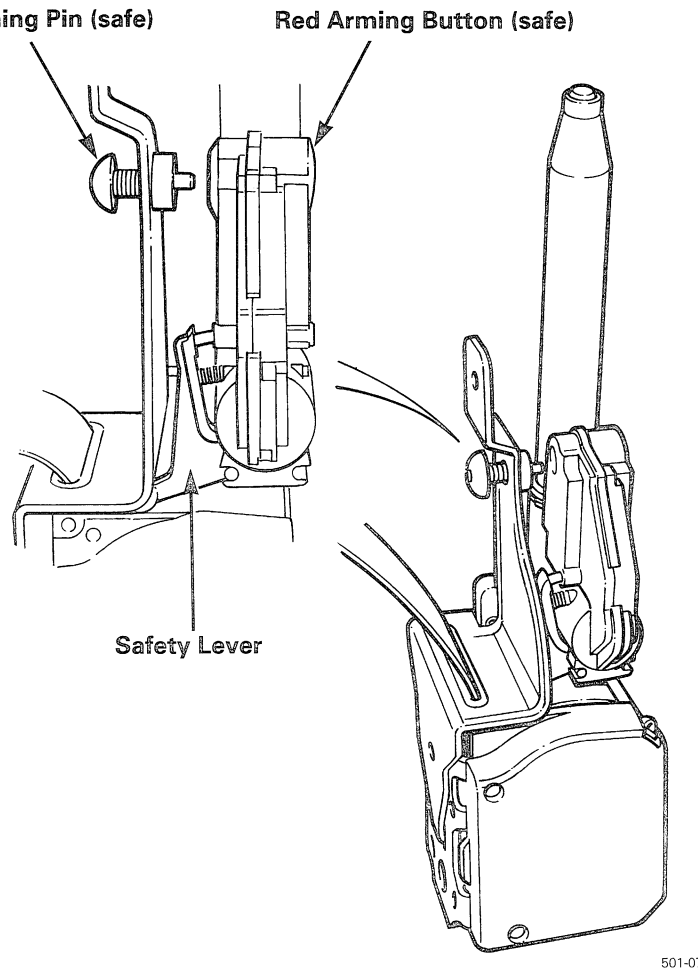
3. Never point the piston housing towards yourself or other persons. Hold it with the piston pointing downwards. Keep fingers away from the take-up spool mechanism/webbing.

4. Any unit which has been dropped from a distance higher than 0.3 m (12 inches) must not be fitted to a vehicle.

Each of the front seat belts has a pyrotechnic, independently mechanically sensed, pre-tensioning retractor unit mounted in the BC post. Pyrotechnic seat belts are easily recognisable by the long piston tube attached to the unit. These offer occupant protection in the event of a severe frontal impact by removing excess slack from the seat belt system. Each front seat belt is handed. The coupe and convertible belts have different top fittings but the belts are common. Tear loops are no longer used. With 3-point mounting, the belt has color keyed webbing and plastic moulding on the running loop and tongue. The coupe has a manual, four position, seat belt shoulder height adjuster for both driver and front passenger, mounted in the B post. To aid rear passenger entry and exit a slider bar is fitted which forms the outboard lower belt mounting point. Each buckle, common to both coupe and convertible, is mounted by a strap attached to the moving inboard seat slide, enabling the seat to slide without inconvenience to the occupant. Visual and audible warnings are given to the driver if the seat belt is not being worn when the driver occupies the seat and the ignition is switched to position I or II.

Seat belt pre-tensioning is activated when a sufficient frontal impact force within 30 degrees of the center line of the car occurs. Mechanical sensors, which are part of the retractor unit, fire, igniting the pre-tensioner gas generator. The gas generator initiates a chemical reaction which creates gases under pressure. These gases drive the piston/cable assembly which removes the excess slack from the belt by turning the retractor just prior to or during airbag/SRS deployment.

PRE-TENSIONING RETRACTOR UNIT



Note: If the seat belt pre-tensioner activates, a small quantity of gas (less than 1 litre (1 US quart)) is produced containing nitrogen, oxygen and water vapour.

The pre-tensioning components contain a solid, flammable material (nitrocellulose (NC)).

The mechanical sensor is live when the arming pin is screwed in, fully depressing the red arming button.
The extending of the belt from the reel, as when being worn by an occupant or is retaining a child seat, (see **WARNING**) allows the safety lever to move towards the center of the reel. This arms the unit. The unit will not be armed with the webbing fully retracted on the reel. Once the pre-tensioner has been activated in a collision the retractor unit will be locked and the webbing cannot be retracted or pulled from the reel.

Rear Seat Belts

Both rear seat belts have 3-point mountings with emergency and automatic locking retractors. The common belt buckles are twin cable, single point, center floor mounted and are integrated into the seat cushion pad. The retractors fitted to the coupe are mounted on the outboard sides of the vehicle on the parcel shelf, with the webbing exiting via colour keyed escutcheons in the quarter casing. Convertible retractors are mounted behind the rear seat squab with the webbing running up and inside the seat belt tower, exiting through a colour -keyed escutcheon on top of the rear seat squab. The lower outboard anchorages are common to both coupe and convertible on the outboard sides of the rear seat pan. Only complete seat belt assemblies are available as serviceable items.

Emergency/Automatic Locking Retractor (ELR/ALR)

All models have seat belt retractor units fitted with Emergency Locking Retractors (ELR) and Automatic Locking Retractors (ALR). In the event of emergency braking the rapid deceleration of the vehicle will cause the seat belt retractor to lock up. At all other times the wearer is free to move the upper torso. The Automatic Locking Retractor (ALR), enables the seat belts to be used to securely hold a child seat.
The belt, once adjusted and all the slack is removed, will automatically lock in this condition and further extraction of the belt is inhibited. Unclipping of the seat belt buckle to release the child seat will allow the belt to return to its normal stowed position and revert to ELR operation. The ALR feature is not fitted to the drivers seat belt retractor, only to the front passenger and rear seat retractor assemblies.

WARNING:
Rearward facing child seats must not be fitted to the front passenger seat. If a child seat is required, use only a forward facing child seat with the front seat set to its most rearward position.

Supplementary Restraint System (SRS)

WARNING:
At least one minute must elapse after disconnection of the cable at the battery positive terminal before any airbag/SRS component service is performed. This allows dissipation of the backup power supply energy.

Driver Airbag/SRS Unit

The driver airbag/SRS unit is incorporated in the center of the steering wheel and is a carryover part from the 95MY sedan.

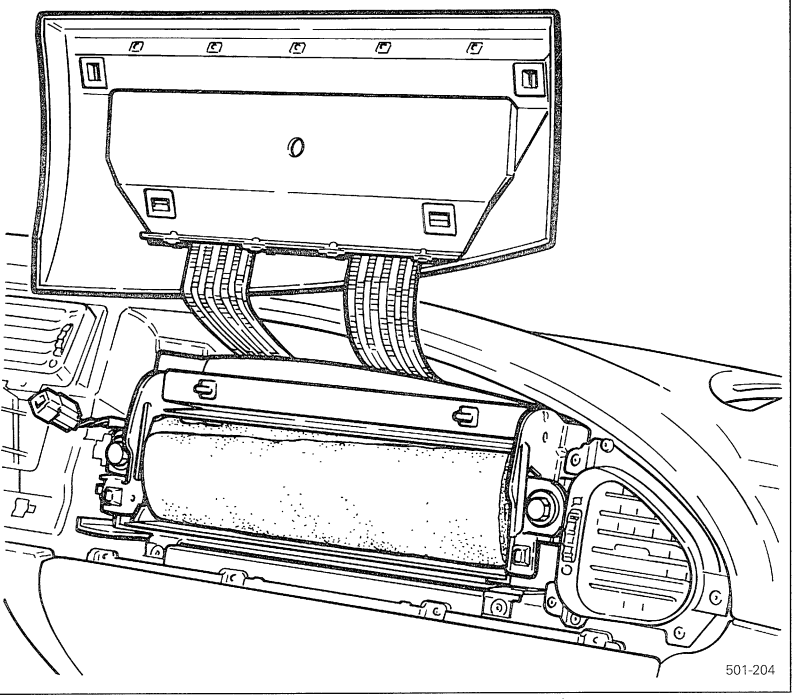
Passenger Airbag/SRS Unit

The passenger airbag/SRS unit is a carryover from the 95MY sedan. It is located in the fascia. The airbag is attached to a tethered door which has four snap-on fixings, no hinges or frangible being used. The tether straps must be fitted to the airbag module adapter bracket prior to fitting the airbag module to the fascia.

Control Module

The control module is fitted behind the fascia, by the A-post on the right side of the car. The module has diagnostic ability, with the safing sensor built into the module and not, as previously, a separately mounted unit. The control module includes an internal battery backup power supply enabling airbag deployment in a crash situation even if the main battery cable is disconnected/broken by the impact.

PASSENGER AIRBAG/SRS UNIT



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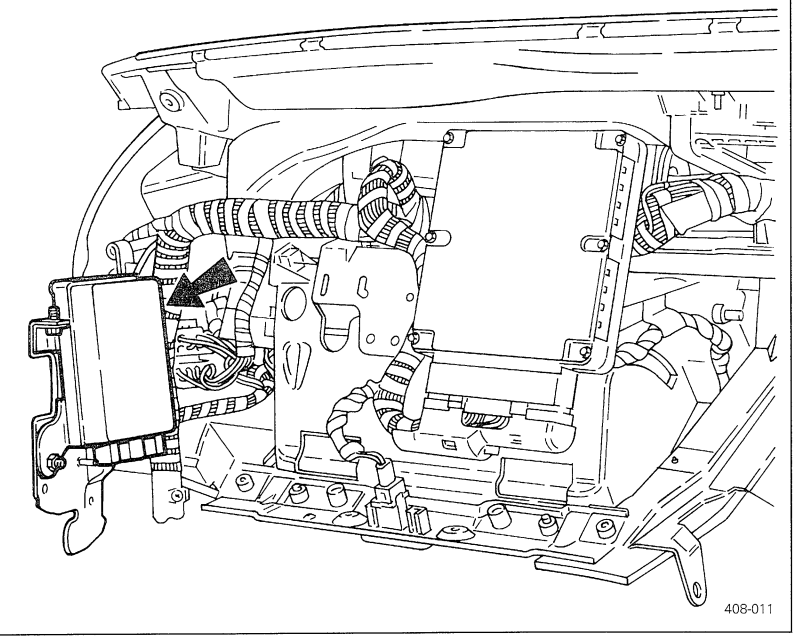
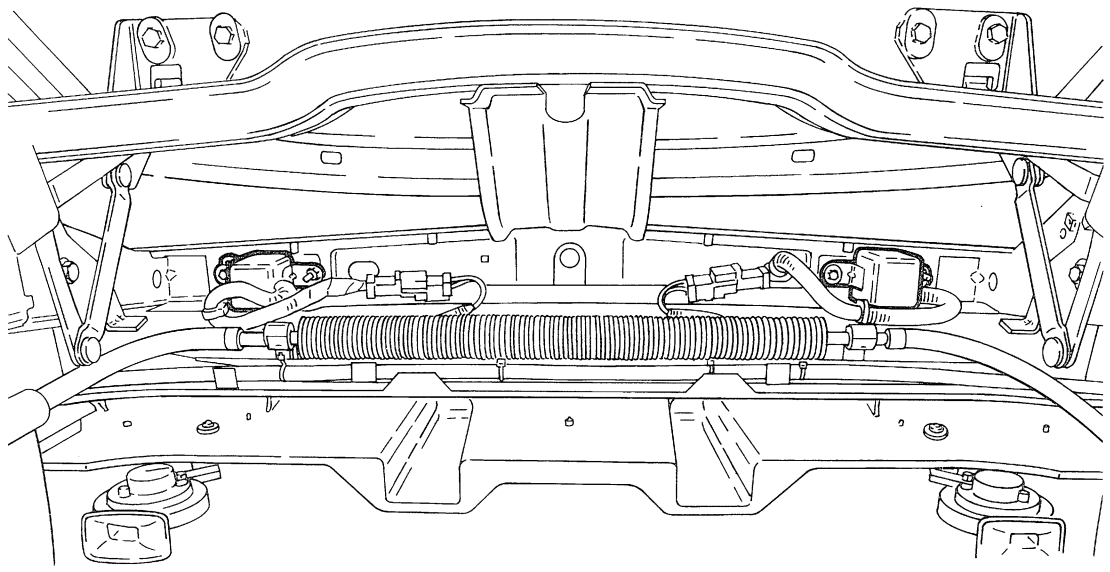
SRS MODULE



408-011

FRONT IMPACT SENSORS



501-049

Impact Sensors

Two primary crash sensors are fitted on the vehicle front upper cross member, in front of the radiator, inboard of the headlamps. These crash sensors are hardwired to the airbags. At least one of the crash sensors must be made, along with the safing sensor, for airbags to deploy. A disarm feature is incorporated in the control module that removes all deployment power from the airbag/SRS without the closure of a primary sensor.

System Management

The SRS Module continuously monitors all airbag/SRS system components and wiring connections for faults. If a system fault occurs a fault code is written into the modules's non-volatile memory and a warning is displayed on a continuous indicator LED. If the airbag/SRS readiness indicator line has a fault and another fault in the system is detected, an audible tone will be heard, five sets of five bleeps. The readiness indicator line fault must be corrected before fault codes can be determined.

Fault codes can still be read through the ISO connector, even if the readiness line is functional or not. If a fault exists that makes unwanted airbag/SRS deployment possible, the control unit will attempt to remove deployment power by turning on a solid state switch to rupture the 10A battery fuse.

WARNING:

Do not substitute another fuse value for the 10A battery fuse. This may cause disarming failure. Do not attempt to replace the 10A battery fuse until the airbag/SRS system has first been deactivated. The fuse is located in the Driver Side Fascia Fusebox - Fuse F4

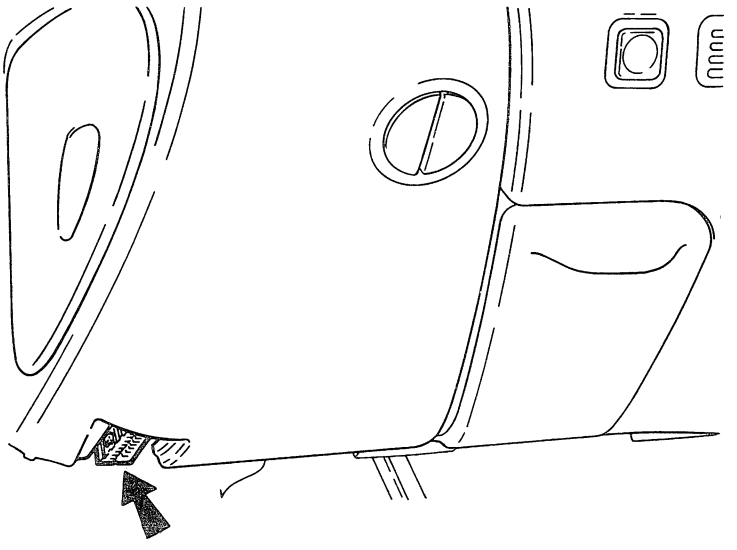
The module will not rupture the fuse a second time thus allowing the fault to be rectified and cleared.

On-board Diagnostics

The diagnostic connector in the bottom edge of the driver's side fascia provides the interface between the vehicle and the Jaguar PDU or a universal scan tool. A scan tool communicates only with the control modules connected to the ISO 9141/2 network, for the retrieval of any DTC they contain. The PDU communicates with the control modules connected to the CAN, the SCP or the ISO 9141/2 network (only the CAN network is used to communicate with the ECM), for:

- the retrieval of DTC
- fault diagnosis
- control module programming
- the enabling/disabling of system feature options.

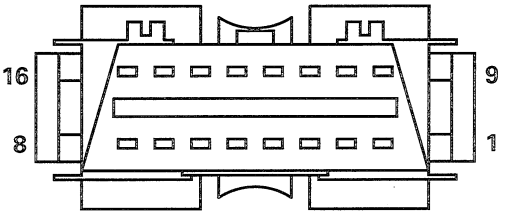
DIAGNOSTIC CONNECTOR



418-021 lhd

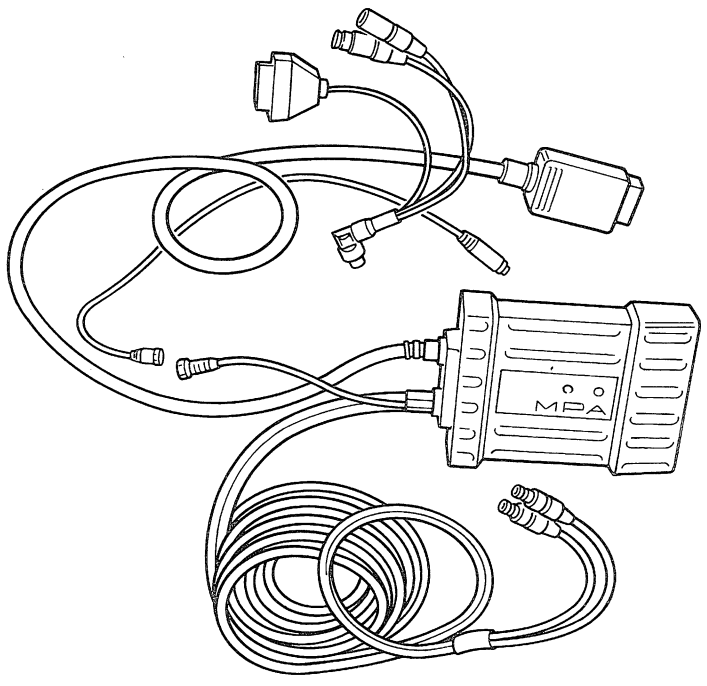
DIAGNOSTIC CONNECTOR

FC053



Pin	Ciruit
001	Ignition ground
002	SCP (+)
003	ISO 9141/2 out (K) (airbag/SRS control module)
004	Power ground
005	Logic ground
006	CAN (+)
007	ISO 9141/2 out (K) (engine, A/C)
008	Auxiliary ground
009	Ignition supply
010	SCP (-)
011	Not used
012	EMS programming
013	EMS programming
014	CAN (-)
015	ISO 9141/2 in (L) (engine, A/C)
016	Battery supply

MPA AND CABLES



98-236

Multi Protocol Adapter

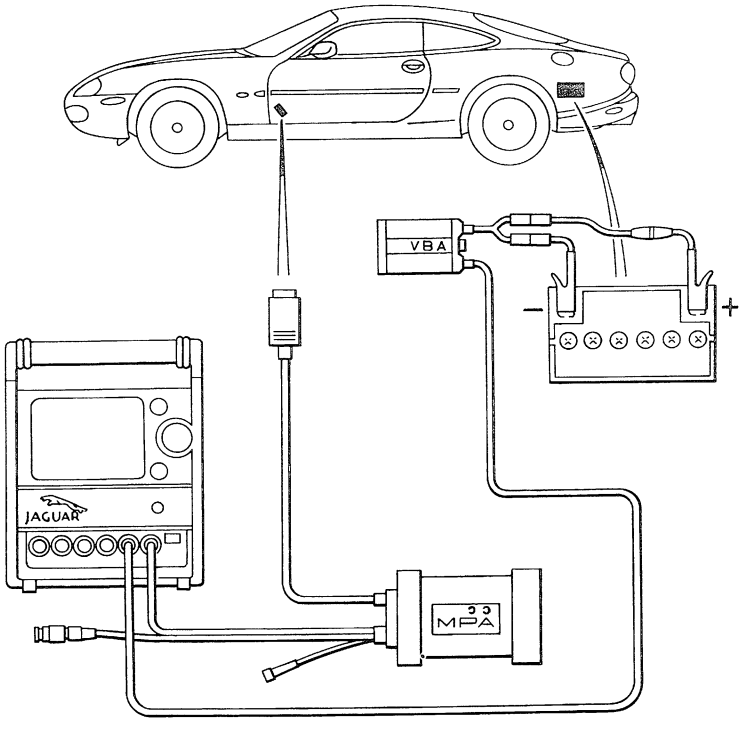
The MPA is introduced to allow existing PDU hardware to communicate with the CAN, SCP and ISO 9141/2 networks. The MPA also:

- increases the processing power and memory of the PDU (the MPA contains 7 times as much useable memory as the PDU)
- improves data logger performance
- can be used as a diagnostic trip recorder, without the PDU, to record data during a drive cycle
- retains stored data for up to 16 hours
- provides a "flash" programming facility to enable updates of control module software.

A LED on the MPA indicates when the MPA is receiving electrical power. An illuminated pushbutton, on a cable connected to the MPA, invokes data logging when the MPA is used as a diagnostic trip recorder. Additional cables are introduced to connect the MPA to the:

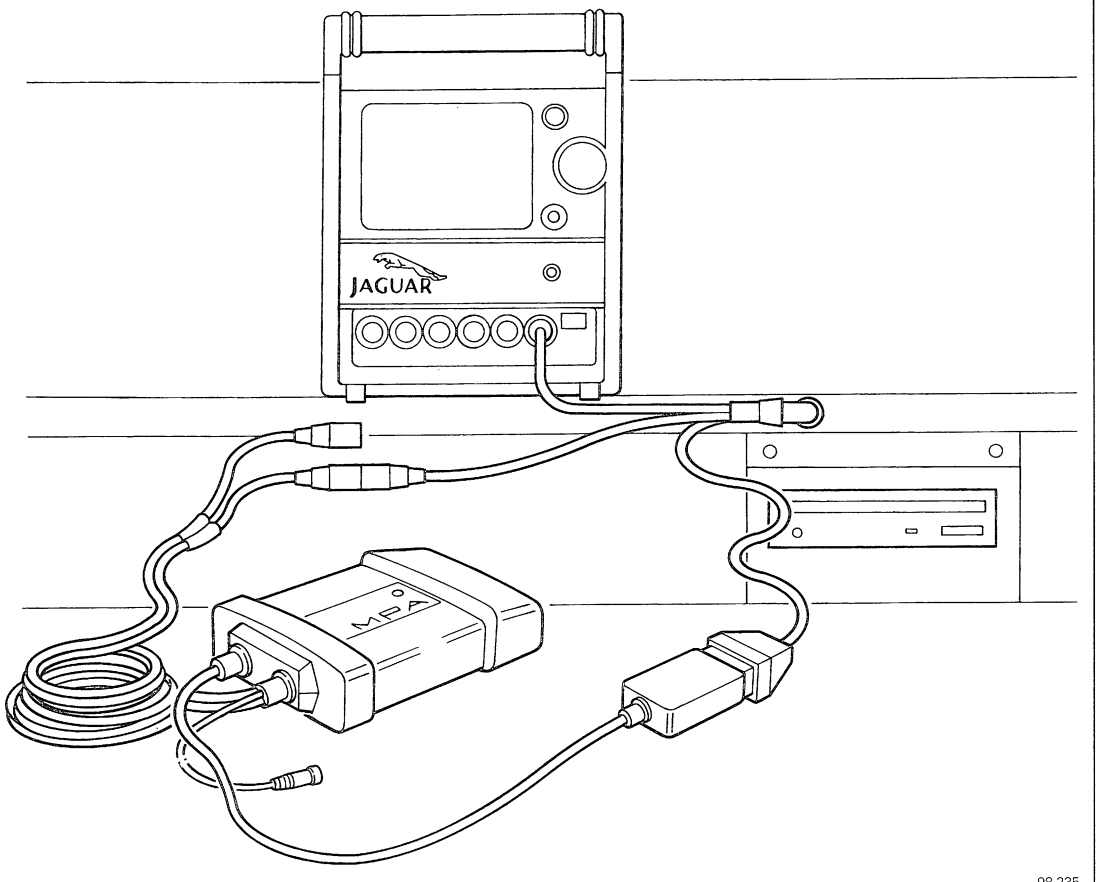
- PDU base station and the PDU, when loading the diagnostics software
- vehicle and the PDU, during diagnostic procedures.

MPA CONNECTED FOR DTC RETRIEVAL AND DIAGNOSIS

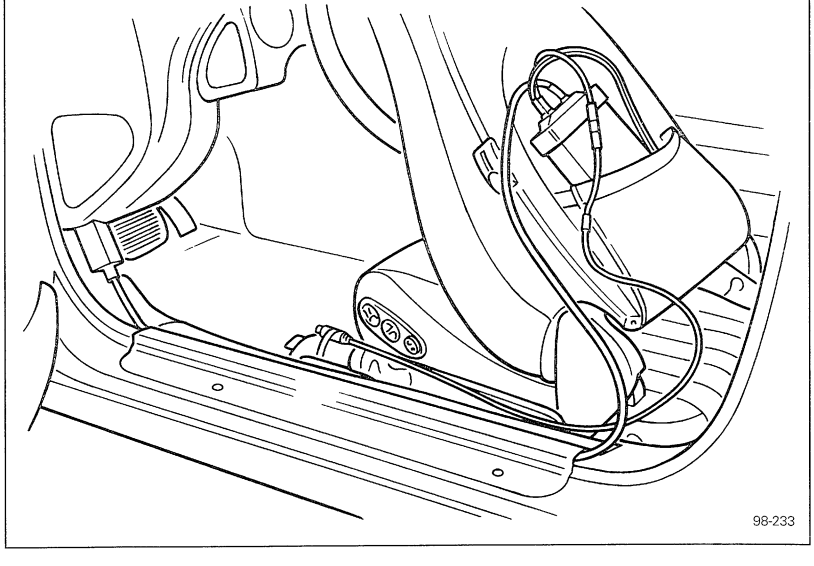


98-237

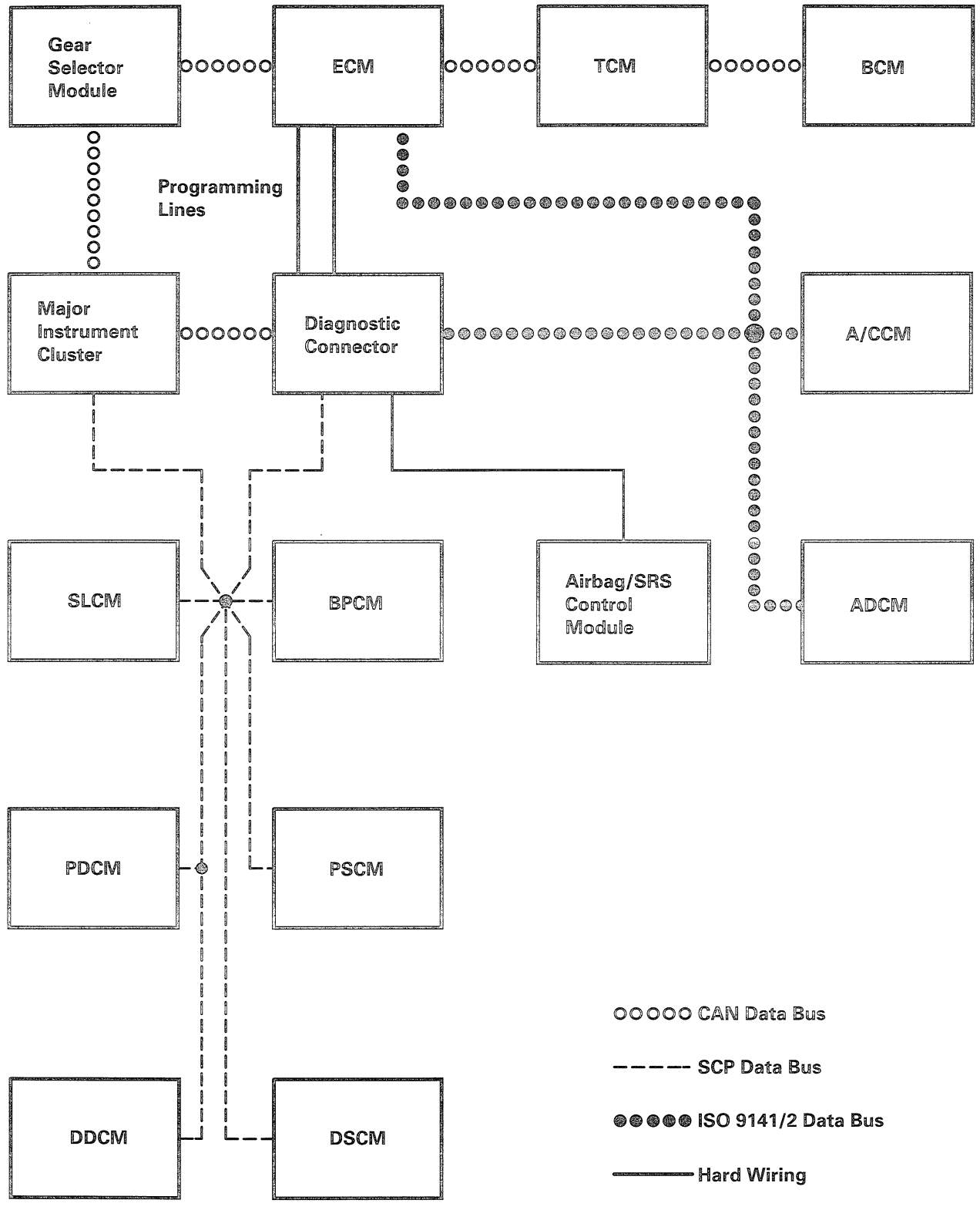
MPA CONNECTED FOR DOWNLOADING SOFTWARE



MPA CONNECTED FOR DATA LOGGING DURING A DRIVE CYCLE



COMMUNICATION NETWORKS



New Tools

The table below lists the new service tools required for the XK8.

Part Number	Description
JD 215	Camshaft setting/locking tool
JD 216	Crankshaft setting/locking peg
JD 217	Timing chain tensioner tool
JD 218	Timing chain wedges (2 each)
JD 219	Front suspension ball joint splitter - special
JD 220	Dummy main bearing caps (5 each)
JD 221	Bore protector - connecting rod installation (2 each)
JD 222	Engine rear lifting brackets (1 pair)
JD 223	Engine stand mounting brackets (1 pair)
JD 224	Front hub remover
JD 225	Front hub removal collets
JD 226	Adaptor - front road spring compression tool
JD 227	Hub holding tool
JD 228	ABS rotor nut socket
JD 229	Crankshaft rear oil seal remover/replacer
JD 230	Belt tensioner release tool
JD 231	Fuel injector remover
JD 232	Valve lifter hold-down tool
JD 233	Fan nozzle air gun
JD 234	Crankshaft front oil seal remover
JD 235	Crankshaft front oil seal replacer
JD 236	Front hub replacer
JD 237	Front hub bearing remover
JD 238	Front hub bearing replacer
JD 239	Upper wishbone ball joint installer (2 tools)
JD 240	Upper wishbone ball joint remover
JD 241	Mono strut bush replacer
JD 242	Front suspension beam bush replacer
JD 243	Front lower wishbone bush replacer
JD 244	Lower wishbone bush remover
MS 76-140-5	Valve seat 5 mm pilot (for use with existing MS 76 valve seat cutter tools)
18G 1437-2	Adapter (for use with existing front pulley lock tool 18G 1437)

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